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# How to integrate the specificities of some food departments into a retail store organization?

Aokian theory of the firm

## Lessons and limits of the Aokian theory of the firm

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### Abstract

**Purpose** – To understand the impact of product specificity on organizational practices of retailers at the store level.

**Design/methodology/approach** – An Aokian framework is used that enables one to discriminate between food products according to their informational properties, and to connect these properties with organizational choices of centralization/decentralization.

**Findings** – Emphasizes the existing tension between the dominant “assimilation” organization pattern and the “encapsulation” pattern which fits better in with some specific product departments.

**Research limitations/implications** – Proposals are confronted with empirical data coming from professional press and experts interviews. Further empirical research is needed to consolidate the findings.

**Practical implications** – The paper points out the need to differentiate the management of departments according to their product specificity.

**Originality/value** – The paper stresses the impact of product specificity on department organization. It can be useful for the design of organizational mechanisms: work organization, incentives and career paths.

**Keywords** Human resource management, Retailing, Department stores, Food products

**Paper type** Research paper

Hyper/supermarket chains have acquired a dominant position in the retail sector, using methods that have revolutionized traditional retailing. Thus, studies on distribution networks tend to focus on business models implemented by retailers (Le Déaut, 2000), on their relationships with suppliers (e.g. Brousseau and Cordon, 1998 for the case of off-season fruits), or more widely on the set of logistics and marketing techniques that they use (Cliquet *et al.*, 2003; Filser *et al.*, 2001).

Comparatively there is little research on retail organization at the store level although the bigger share of retailing costs is involved at this last stage of the chain: the few papers existing generally emphasize a functional viewpoint (Chabin, 2001; Fournier and Loubes, 2002; Vignon, 2002) more than a general perspective[1].



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How can we explain such an intriguing literature gap? Possible reasons for such a gap are the following:

- (1) difficulties in accessing data;
- (2) store organization is considered as a series of unqualified tasks performed by plain executants, without any moral hazard issue and thus does not deserve any research interest;
- (3) it is more important to focus the analysis at an upper level of the chain, where most logistics and management techniques having decisive impact on management practices (buying processes, merchandising, SCM, CRM, etc.) are implemented; and
- (4) store management, as an extensive user of the latter techniques, is under tight control of the upper level and has accordingly no leeway in the global organization.

Store human resources management would be therefore a trivial subject, except for specific issues of human resources management (Vignon, 2002), actors' testimony (Philonenko and Guienne, 1997), or even implementation of management control techniques (Chabin, 2001).

Many scientists have opposed such arguments. First, sociologists and organization theorists (Moisdon, 1997) strongly emphasize that there is always a gap between formal rules and their application by agents. Also, recent works emphasize that quality of execution explains most differences in performance across stores within a chain (de Horatius *et al.*, 2001a, b). Drawing on the above critical studies, our paper aims at understanding difficulties in retail store management, by focusing on how product specificities conflict with store management across departments.

Our paper contributes to fill that gap by exploring the general architecture of the organizational mechanisms that enable the functioning – and efficiency – of retailers' stores (hypermarket essentially) and by discussing their diversity and coherence. It aims at

- (1) characterizing the functioning of retailers' stores, and identifying accurate stylized facts; and
- (2) discussing these stylized facts through the lenses of the Aokian theory.

Such an analysis leads us to:

- (1) Assess the interest and limitations of the Aokian theory of the firm, when applied to the food retail industry, thus completing similar analysis led on the industry (Allouche and Huault, 1998; Chabaud and Parthenay, 1999; Maronnat-Geffroy, 2001).
- (2) Shed light on (and understand) the organizational constraints faced by store managers when dealing with food products having specific informational properties.

After a general presentation of the Aokian theory of the firm (Section 1), we will show the way of applying it to retailing, by setting propositions (Section 2) and connecting them with empirical observations (Section 3).

## 1. An informational analysis: the Aokian viewpoint

Aoki renewed the analysis of the firm, by discriminating between a hierarchical and centralized form of organization (called the H-firm) and a decentralized one (called the J-firm) (Aoki, 1986, 1988). Further research by Aoki (2000, 2001) recently provided amendments that allow for generalization of the initial theory and wider applications to economic activities. We first briefly present this not yet well known, more general Aokian informational grid of analysis (1.1) which leads him to delineate a plurality of efficient organizational architectures (1.2).

### 1.1 *The informational viewpoint: towards a general typology*

Aoki (2000, p. 25) draws on the same informational conceptualization of the firm of Aoki (1986, 1988): by emphasizing how important it is “to explicitly treat the organization of the firm as an information system, and not simply as a ‘black box’ incorporating an efficient technological knowledge”, thus departing from the neoclassical analysis of the firm and by focusing on the tension between centralization and decentralization in the design of incentive and coordination mechanisms: “In order for firms to be internally integrative and organizationally effective, either their coordination or their incentive mode needs to be hierarchical, but not both” (Aoki, 1990, pp. 14-15). He is thus led to distinguish two economic models: the H model (Hierarchical or American) which combines centralized (or vertical) coordination and decentralized (or horizontal) incentives and the J model (for Japanese) which combines decentralized (or horizontal) coordination and centralized (or vertical) incentives.

Drawing on these common theoretical foundations, Aoki (2000) offers new perspectives which give useful insights on how product specificity may impact retail firm organization. On the one hand, he emphasizes the diversity of informational relations, considering ascending and descending information flows between hierarchically distinct units and horizontal flows between operational units of the same level. Such differentiation will allow us to consider different levels of analysis within the retail firm. As we will see further, the traditional Aokian isomorphism principle (1988, 1990) which fits in well with an analysis of manufacturing activities, does not apply easily for retailing firms. On the other hand, Aoki (2000, 2001) attempts to give wider applications of his informational theory of the firm by introducing a third generic mode of informational structure, the encapsulation one, which permits us to take into account activities with weak stochastic correlation of environmental uncertainties.

Let us first describe the new Aokian grid before considering its implications for retail firm analysis.

*1.1.1 Agents faced with environmental uncertainty.* Aoki (2001) uses the case of a two units organization,  $T_1$  and  $T_2$ . These units have to take activity decisions, that determine, in the face of environmental uncertainty, the organization results.

Aoki asserts, in a first time, that one can estimate – before the activity begins – the environmental parameters distribution, deriving from past experience or formal knowledge. Such knowledge helps to define a preliminary plan, “an optimal decision choice”.

When production starts, environmental parameters can be observed. If the organization can identify emergent events, it will be able to improve the *ex ante* plan,

and implement corresponding cost-minimizing solutions immediately. Since it is assumed that observations remain imperfect, the crucial question is: “how do we share information processing tasks between the two operational units of the organization and which ex-post decision rules should be implemented at each level”.

Aoki then goes a step beyond by differentiating two types of environment with corresponding uncertainty:

- The *systemic environment*,  $E_S$ , that can affect the activity of both operational units.
- The *idiosyncratic environments*,  $E_1$  and  $E_2$ , that only affect one unit, and are proper to it. The idiosyncratic environment can only be observed by the corresponding unit which cannot communicate its observations to the other during the time period. Such assumption draws on the famous expression of Hayek (1945): “Knowledge of particular circumstances of time and place are only available to men and women on the site”.

*1.1.2 Diversity of information connectedness.* How can we think information connectedness on this basis? Aoki distinguishes three generic modes of information connectedness, according to how processing tasks of information about systemic environment events are shared between the two units (Figure 1).

*Hierarchical decomposition (HD).*  $T_1$  monitors the environment common to both units, and makes a decision regarding its action in response to the state of global environment and idiosyncratic environment ( $E_1$ ).  $T_2$  is informed of the choice of  $T_1$  (notice that there can be errors in the information transmission); and adjusts on this basis its decision. So,  $T_1$  is hierarchically superior to  $T_2$ .

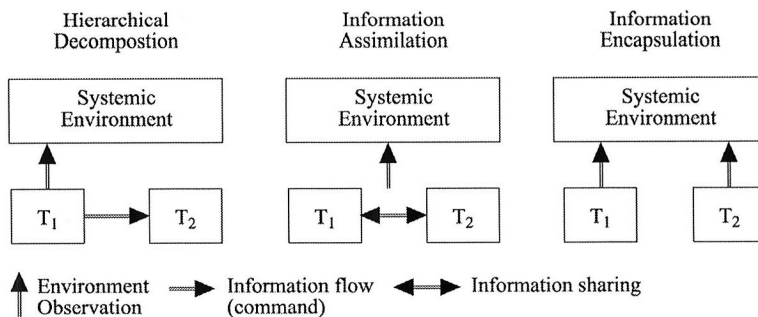
*Information assimilation (IA).* Both  $T_1$  and  $T_2$  observe the systemic environment. Aoki assumes the perfect correlation of observations,  $T_1$  and  $T_2$  pooling their observations in order to form an *assimilated cognitive representation*, enabling to have the same probability distribution over the environment. Two cases can be differentiated.

The units extract the same data from a formal information system (information network), in which case we have a *network-induced information sharing*.

The units share samples of non codified information that they separately generate from their activity and collectively construct a joint distribution of the probability of environment state. In the latter, which corresponds to the J model of the firm (Aoki, 1988), Aoki (2001, p. 102) uses the term “contextual information sharing”, as sharing is permitted due to specific relationships between units.

*Information encapsulation (IE).* Systemic environment as well as idiosyncratic one are independently observed by each unit, observation errors are supposed uncorrelated, which results in differentiated cognitive perceptions of environment. Aoki talks about encapsulation as each unit processes its own information, “hidden” from the other (Aoki, 2001, p. 102). In a “degenerate case” both units focus on their idiosyncratic environment without observing the systemic one.

For Aoki (2001) these three modes of information system constitute three generic modes of architecture, “each real organization combining these three modes, vertically as well as horizontally, by different ways”. The next question is to know the properties of these organizational architectures.



Source: Aoki (2001, p. 103)

Figure 1.  
The modes of information connectedness

### 1.2 A plurality of efficient organizational architectures

In fine, Aoki aims to discuss the comparative efficiency of the three generic solutions. To do so, he retains three variables:

- (1) task complementarity or substitutability;
- (2) correlation level between idiosyncratic environments; and
- (3) communication costs.

The three variables determine, modulo the context, what is the informationally efficient organizational architecture. Notice that the communication costs question is included in the discussion of the other two variables.

First question to be addressed is *whether tasks are complementary or substitute*. This question is important since it may impact the need for tight coordination between units. Tasks are complementary if the marginal gain due to the increase in one task can be increased by the increase of the other task. In this case, decisions have to go the same way, to obtain a close coordination between units. Conversely, if tasks are substitute (or concurrent), the increase in the one necessitates a decrease in the other.

If tasks are complementary, information assimilation dominates information encapsulation. Required coordination between the units promotes a solution of information sharing – and creation of common knowledge – between the units.

Notice that hierarchical decomposition enables coordination as well by taking account of systemic and idiosyncratic environment of  $T_1$ . So, hierarchical decomposition will be more efficient than information encapsulation. Exception would come from prohibitive costs (or mistakes) of information transmission between units.

On the other hand, is information assimilation superior to hierarchical decomposition? To answer, we have to make a cost-benefit analysis of the two solutions facing the environment change. Aoki predicts that “When differences of capacity in information processing is high and information transmission costs low, hierarchical decomposition is informationally a more efficient solution than information assimilation”. Conversely, if information costs, and the ability to process information are similar between units, the assimilation solution will dominate hierarchical decomposition. We also have to notice that the use of network-induced

information sharing improves the performance of information sharing solutions over hierarchical decomposition.

Second question to be addressed is *how much correlation is there between idiosyncratic environments*  $E_1$  and  $E_2$ . According to Aoki, when correlation is high, hierarchical decomposition gains in efficiency: HD enables one to take into account  $E_1$ , which allows for a good estimate of  $E_2$ , without having to organize information sharing between the two units. When correlation is “very weak”, information encapsulation gains in efficiency as it becomes more important to adapt each unit to its own idiosyncratic environment. Differentiation emerges as the best solution, even if there is task complementarity. Structures with independent units, or at least with autonomy of management should then be preferred in a case of weak correlation.

A typology of organizational solutions can be obtained by using the two variables (Table I).

Consequently, Aoki suggests to delineate the choice of organizational architecture according to the nature of tasks and the stochastic correlation between tasks. Aoki (2001) further considers that the diverse modes of information connectedness can coexist inside the firm, leading to a modular view of organization. Beyond those theoretical concerns, we wonder whether this Aokian model is a helpful tool to explain the organizational practices of the firms. To answer, we will try to identify some propositions that derive from an application of this theoretical grid to retail organization.

## 2. Aoki and retail store organization: proposals and operationalization

In order to apply the Aokian theory to retail organization, we have to consider the matter of its operationalization. What are the main variables to take into account? We suggest that in order to understand the retail store organization, one has to cope with the impact of product specificity on the departments’ organization (Section 2.1), as this dimension will simultaneously impact the needs of information treatment and the abilities required to do this treatment. This will enable us to infer some proposals on how product specificity may impact organizational structure at:

- The store level, enabling to analyze the global design of relationships inside the store, as well as the internal functioning of units, and to address the horizontal modalities of connection (Section 2.2).
- The vertical level between stores and the warehouse, or central services, addressing the vertical modalities of connection (Section 2.3).

If we understand the necessity to articulate the different levels of choices – the labor sharing decision between central services and store can, for instance, affect the choice of structure inside and between departments, in a context of branding

**Table I.**  
Distribution of the optimal organizational modes in terms of informational connectedness

		Stochastic correlation tasks	
		Weak	Strong
Complementary	Information encapsulation	Information assimilation	Hierarchical decomposition
Substitute		Information encapsulation	

**Source:** Aoki (2001, p. 106)

and homogenization strategy – each level has to be specifically addressed in an Aokian theory of the firm

### 2.1 From product specificity to the diversity of departments

Analyzing retail store organization in an Aokian logic requires to determine the relevant unit of analysis, and to identify the main variables that impact the choices of organization. Discussing this dimension will lead us to emphasize the crucial role of product specificity and to derive a typology of departments grounded on the kind of products they sell.

What is the *elementary unit of action*? If Aoki (1988) made a general hypothesis of isomorphism, asserting the perfect transposition of his analysis from one level of the organization to the other, we have to empirically question on the minimal level of differentiation of units. On this point, we will use homogeneity of behavior facing idiosyncratic environments as a delineation criterion. In that regard, the department level seems appropriate, as long as department frontiers are defined along homogeneous categories of products[2].

If the department level is more suited to analyze the organization's choices, what are the main *variables that impact the functioning of departments*? How is the department organized? How are responsibilities shared? How does vertical coordination work? How can we implement the Aokian grid to analyze retail store departments? We first need to assess the degree of uncertainty surrounding the department. In the case of automotive industry, Aoki emphasizes a criterion of global demand uncertainty with proxies of product variety such as number of models, versions, etc. In the case of retailing activity, global demand uncertainty and product variety (number of items on display) look useful proxies of department environmental uncertainty. Moreover, the nature of product matters, and needs to be taken into account in the analysis. Product specificity determines:

- frequency of adjustment of supply to demand; for instance, perishable products are more subject to timing constraints than dry goods;
- customer relationship: some goods sell much better when expertise is provided to the consumer and thus do not fit well with the usual self-service retail principle;
- yearly variation in assortment, advertising or animation: festive periods, seasons and climatic events affect consumers' demand, sometimes unpredictably; and
- in-store food processing: some products like meat or bread can be processed or elaborated in store and thus require local production workshop and increased responsibility for the department manager.

So, product specificity has an important impact on the need of information treatment by the department, impacting the need of action at the department level, but also the connection of department with its customers as well as its supply chain.

Product specificity as a determinant of department environmental uncertainty, will have strong implications on the choice of organizational architecture[3]. We suggest to build a *department typology* around this criterion. Four types of goods and corresponding departments can be identified:

- (1) Standard goods: most representative products are grocery products or dry food; branding is the rule and quantitative demand uncertainty is the main

adjustment issue. Standard departments, which are taken as a benchmark for other departments in retailing textbooks, have been successfully experimenting technical and organizational innovations such as EDI, category management, automatic replenishment. As a result, standard department managers have been deprived of a number of important tasks that are now decided at an upper level and are left with downstream tasks of team and customer relationship management. Standard departments can thus be viewed as externally managed and fit in well with an information assimilation mode.

- (2) Credence goods, which feature high technicality, complexity or measuring problems and need to be sold with the help of a seller/adviser. Notice that there is a matter of degree, as advice can be considered as optional or inescapable depending on the kind of product. For instance, not all wine departments are provided with a cellar-man; many of them rely on labeling and merchandising techniques (different grouping criteria can be used to display wines in the shelves: origin/country of production, color, differentiation between *grands crus*, AOC, table wine) as a unique guide for the customer. Conversely, computers and software which are still considered as high-tech products, usually sell with the help of an adviser. When credence is at stake, expertise provision may be an efficient retail strategy. Implications for concerned departments are the need to hire or to provide department managers with a strong professional background.
- (3) Experience goods with evolving characteristics, like fresh fruits and vegetables or fish. In the face of qualitative uncertainty which adds to quantitative uncertainty, major department objectives are usually product stability and consistency, compliance with quality standards and regularity of supplies. Bringing supply chain under control is crucial in experience goods departments. Like credence goods departments, experience goods departments need to be managed by specialists. In the latter case, required knowledge is about supply chains, production process and product characteristics; it allows for efficient control of the product and its evolving characteristics at the store level. For experience goods departments, additional question arises to know whether expertise can be shared between the department manager and his team-workers, or if the manager is the only one who needs professional qualification.
- (4) Locally processed products like bread, or meat. Processing being locally realized, production uncertainty adds to quantitative and qualitative demand uncertainty to be faced by department managers. Production management requiring professional skills, in-store processing has specific implications on department organization. Actually there is a clear divide of organizational issues between the meat and the bread departments. While high perishability is a major constraint for the latter, quality and measurement issues are crucial for the former one.

So, we can consider at the first sight that in order to have efficient complex goods departments (in terms of capacity of information processing), product/professional skills may be required. A clear divide between these complex goods departments and the standard ones should result: complex goods departments open the way to a logic



of encapsulation, leading to their autonomy, whereas standard goods departments would convey an assimilation mode. But, in order to conclude, we have to discuss more precisely the connection between product specificity and organizational architecture.

## 2.2 The retail store organizational design

Designing organization architecture requires to define the connection rules between departments, but also to define precisely the management rules of departments. These two discussions will lead to reinforce the crucial dimension of product specificity.

*2.2.1 Management of hazards, specificity of products and horizontal connectedness.*  
We can address the question of the connectedness between elementary units – departments. According to Aoki, the choice depends on the strong or weak stochastic correlation between environment changes that are faced by the different departments and that will impact information sharing between them. What is the situation between departments? We conceive that all departments are confronted to the same systemic environment, depending on economic situation, customer area specificities and site location. Nevertheless, what is going on when we look more precisely at the situation? Do we need to share information between departments in order to manage common hazards?

Two levels need to be delineated in order to define the appropriate management mode within each department:

- (1) The impact of hazards: as long as departments are usually divided along homogeneous families of products, necessary adaptation for each department seems product-specific. Thus, each department can be considered as independent: although rapid changes in product sales of different departments may be due to a same hazard (for instance soaring sales of barbecue meat and fan due to unexpected drought) such hazards need not be managed through a joint coordination between two departments. In such a situation, each department has to take decisions about assortment, prices, promotions, etc. in line with local circumstances, without having to exchange information with other department managers. Consequently, the need for informational connectedness refers more to a need of vertical connectedness to adjust supplying decisions between the central warehouse and corresponding stores, rather than to an horizontal one (except if we suppose tie-in sales of fans and barbecue meat. . .).
- (2) Product specificity may also impact the need for coordination. In the case of standard products, adaptation is made according to the sales, with an automatic replenishment logic, whereas in the case of complex products, department manager is faced with high qualitative and quantitative uncertainty. In the latter case, product will be ordered (and processed in the case of meat) according to expected sales. With or without central warehouse, adjustment to store specific hazards is necessary to avoid product losses and low turnover. For fresh produce departments, required informational connectedness is much more vertical than horizontal, each department facing its own product idiosyncratic hazards.

So, we will consider that each department selling goods with evolving characteristics is confronted to a different idiosyncratic environment, with weak stochastic correlation

with other departments. Using an Aokian grid, we should observe an *information encapsulation model*, each unit processing local information at its own level, independently from other store departments (proposition 1).

A distinction must be made for standard goods departments. As soon as product-specific hazards are weak, and are overshadowed by hazards due to the store systemic environment, we observe some correlation between department idiosyncratic environments. In such a case, an *assimilation logic* should emerge and tools enabling information sharing, such as department rotation, internal career, be implemented (proposition 1').

A store being a mix of fresh and standard food departments, a tension should appear between departments allowing for an information encapsulation mode of management, and departments allowing for an assimilation mode. Implications for a store retailer are how to define and enforce management principles in order to coordinate these two different informational modes of organizational architecture.

*2.2.3 Specificity of products and organization modes.* This divide between complex goods departments and standard goods departments also has to be connected with department organization modes, in particular in the design of coordination and incentive mechanisms. For instance, from an incentive viewpoint, since product-specific skills are required for department managers in credence, experience and in-store processed goods departments, differences in career trajectories should be observed between the standard food departments (where no product-specific skills are required), and the other categories of departments (proposition 2). More precisely:

- managers with high product-specific skills should not be switched to other product departments; and
- while department managers with no product professional skills, should be subject to high turn-over between store departments, in order to build more efficient collective management skills.

Other implications to be observed relate to remuneration and control.

*A priori*, an encapsulation logic should prevail as an optimal informational structure for “professional” departments. As a result, professional departments should work as “profit centers” and payment schemes be defined on a pay-for-performance basis with wages and bonus calculated along fine-tuned performance criteria (proposition 3).

Two points can be emphasized here, assuming the existence of an encapsulation model. On the one hand, if professional department skills or qualifications are generic, i.e. if they are explicitly recognized and valued on the labor market, observed wages inside the retailing firm should be equivalent or higher (modulo search costs and efficiency wage policy) than on the labor market. Examples of such professions are butchers, cellar-men, IT sellers.

Conversely if department manager product-professional skills are not valued as such on the labor market, being more “specific” to the retailing firm[4], we should observe, from an Aokian viewpoint, the introduction of centralized incentives, i.e. of an internal career system enabling skills recognition – and corresponding remuneration – inside the firm (Aoki, 1990). This incentive system, corresponding to rank hierarchy in the J-Firm (and referring in some way to life employment), consists in offering department managers perspectives of internal career inside the firm more than an immediate remuneration. While the J-firm incentive system fits in well with standard

departments for managers to develop management skills, it proves less adequate for departments like fresh produce departments requiring strong professional skills that are not explicitly recognized on labor market. Managing fresh produce department managers in the same way as standard department managers, will provide little incentive to develop department professional skills, which should result in a loss of efficiency.

In conclusion, there is a clear organizational divide between standard products which call for centralization of management decisions and complex products, which require professional skills at all levels of the supply chain, including at the store department level, thus leading to maintain relative level of decision autonomy at the store department level. Nevertheless one can wonder if these principles are influenced, or even changed, by the fact that retailers are chains that can choose to centralize diverse activities, like buying.

### 2.3 Product specificity and centralization

According to Aoki, the nature of hazards determines organizational choices. For Aoki (1986, 1988), the choice between H and J depends on how efficient are the two solutions in resolving market environment uncertainty, according to the trade-off that has been chosen between economies of scale (or of specialization) and learning economies. Centralization allowing for scale economies at the expense of learning economies (in the management of hazards), optimal vertical coordination will be decided along these two variables.

This trade-off economies of scale/learning economies is crucial for retail chains emphasizing adaptation to local context. So, centralization matters, since it opens the way to scale economizing and buying cost minimizing, that often do more than compensate economies due to adaptation to local context. Nevertheless, the Aokian analysis leads to emphasize the additional issue of the coordination between central level and local level: is it possible to centrally manage all hazards faced by a store department, or only part of them? Here again, the product specificity matters. There is a *clear organizational divide between*:

- *Standard products* which call for centralization of management decisions, in particular of purchasing functions (economies of scale are greater than the gains obtained from efficient local information processing).
- *Complex products* which require professional skills at all levels of the supply chain, including at the store department level thus leading to maintain relative level of decision autonomy at the store department level[5] (proposition 4).

Nevertheless, whatever the priority given to local adaptation, we must not forget that multiple retailers also care for building efficient supply chains and strong brand reputation at the national level. Moreover, the centralization question has to be connected with the possible standardization of supply (or of products' characteristics). If product standardization develops, it becomes easier to manage most environmental hazards at a central level. Conversely, if supply resists standardization, delegation of a number of decisions to department managers is necessary. Centralization also develops when retailers create private labels and are thus led to increase coordination information flows within supply chain.

In conclusion, Aokian analysis leads us to suggest different propositions as regards the different solutions for managing department managers (and even employees) taking into account product/department specificities. These propositions all together allow for describing retail firms operating principles.

### 3. Store organization: facing diversity

Do the theoretical proposals inferred from our Aokian analysis verify what may be observed in food retailing? Do they explain the tensions that may occur on a short or medium term in the management of human resources at the store level? As a rule, retailers strive to homogenize management practices between departments and within each department of the store. However, the Aokian analysis makes out reasons why some departments should resist such an homogenization. This section aims at answering and clarifying those questions and contradictions.

In the following, we try to build some stylized facts from our data and observations collected through industry journals and experts networks and use those facts to question the theory. Two surveys and one report have been particularly helpful. The first survey was realized by CEGOS in December 2001 on a sample of 500 department managers, the other one was realized through a phone call by IRS/LSA in March 2002 on a sample of 613 department managers. The report (Echo des Min, 2004) is specific of the fresh produce sector and is a series of interviews realized in the major retailers chains at the store and at the warehouse level.

We first show that the dominant organization model followed by most retailers may be classified in the Aokian typology as an "information assimilation" one. In a second subsection, we verify that mechanisms supporting such a model are actually working. We then (3.3) observe that such a model is sub-optimal for some specific departments, in particular the fresh produce one. Finally (3.4), we identify some alternative solutions of coordination.

#### 3.1 *The prevailing organization model is closed to the "information assimilation" Aokian model*

Purchase centralization whether at the national or regional level has deprived the department manager of a function that was absorbing a great deal of his time and interest (CEGOS survey). By the same token, retailers have redefined the department manager profile, increasing his role as a marketing and team manager. To signal such a professional mutation, the French name "chef de rayon (department chief)" has been replaced by names such as "manager de rayon (department manager)", "responsable de marché (market responsible)" or "manager de metier (craft manager)" that fit in better with his new functions.

By refocusing the department manager job on team management and retail marketing functions, supermarkets were pursuing the specific goals of an "information assimilation" model, which are in particular a greater homogenization of management practices, a better circulation of knowledge within the store and a strengthening of corporate culture. Several coordination mechanisms are used to reach those goals and ensure the cohesion of such a governance structure at the store level; chains have accordingly modified their recruiting and inside career promotion policies.

Qualification required to be hired as a department manager has been upgraded for the last ten years. Chains tend to recruit more and more candidates on a Business

School profile with a two or more years college degree (Points de Vente Octobre 2002, Les distributeurs charmeurs de cadres). As a result, there is like an abandon of the social rise model that works through inside promotion of employees to the function of department manager. According to the LSA/IRS survey of March 2002, the share of self-taught department managers has decreased to only 5.2 percent, the shares of the graduate from high school (15.8 percent), of those with a two year college degree (BTS = diploma of superior technician) (21.4 percent) or with three or more years spent at the University (10 percent) are fast increasing while those with vocational training (CAP and BEP) are still the majority of department managers.

The changing recruiting policy does not mean that in-house promotion mechanisms are broken; it is quite the opposite. Even if it is true that recent difficulties in recruiting department managers outside the firm[6] have obliged supermarkets to increase in-house promotions and to give more incentives to improve managers' loyalty (as seen in Carrefour (2003), see Points de Vente Octobre 2002, Les distributeurs charmeurs de cadres), it would be wrong to consider the recruitment mechanism and the in-house promotion one as close substitutes. It is quite the opposite. The two mechanisms act in a complementary way. Once the former has worked as a provider of department managers functions with outside candidates, the latter plays a major role in coordinating and building up collective competencies, in facilitating knowledge circulation and in developing corporate culture. Recruiting department managers at the undergraduate level thus represents a first step on a career trajectory that will further evolve through in-house promotion.

The department manager status has evolved from an end of career highly-coveted job for unqualified employees to a first job for junior managers who are longing to quickly make a career in food retailing. Such a job now serves as a test for freshly hired managers. There is no better learning device neither better fishpond where to recruit our future store managers, say a human resources executive of a major chain (LSA Dossier Manager de rayon, Valorisez vos atouts, 10 mai 2002). The department manager first experience is well known for its hard labour conditions and acts as an efficient selecting mechanism excluding the less efficient within the first two years (Points de Vente Octobre 2002, Les distributeurs charmeurs de cadres). It is a prerequisite to accede to more valuable executive functions.

In addition to the selection mechanism, conditions of high mobility within the chain, including at the international level, are imposed on the department managers. They create a high turn-over at the store department level and support the homogenization of management practices, the sharing of knowledge and the development of corporate culture (Figaro Entreprises, 8 avril 2002).

Transversality is an organisation pattern that has been initiated in the late 1990s by some major chains such as Auchan and Carrefour. It takes further the logic of the "information assimilation" Aokian structure. It builds on a higher specialisation of managerial staff along chain activities working across categories of products, thus partially giving up with the traditional specialisation by department. The many activities that contribute to the good working of a department are segmented then clustered with other departments' activities so as to configure two main poles: the first one grouping all activities dealing with marketing (range of products, merchandizing, prices, sales) and the second one grouping all activities dealing with supplying and logistic (goods circulation, goods storage, handling team management). New executive

functions called respectively "Rof" or "Dal" have been created to command the two grouping of activities. In the new configuration, department managers have limited functions that focus essentially on the selling function and the customer relationship. (Linéaires mars 2004, "Transversalité: les raisons de l'échec").

With the "transversality" reordering, labor division already initiated with purchase centralisation has been taken a step further. As a result, transversality is supposed to allow for increased economies of scale and increased standardization of procedures. Moreover, it is perceived by fast growing chains, in particular, when internationalisation is at stake, as an efficient pattern of store organization that may be readily duplicated. Eventually, since it creates a similar configuration to that of a central warehouse, it allows for a better information circulation. In sum, transversality seems to strengthen the "information assimilation" structure that tends to be the store dominant structure since purchase centralization.

### *3.2 Incentive systems tend to ignore product/department specificity*

In a pure Aokian logic, incentive systems of an assimilation information model should not be department specific. What actually happens? What are payment and promotion practices for "professional" department managers?

According to the above-mentioned surveys, main differences of wages are between chains; in France, Carrefour is well ahead of the other chains with 50 percent of the store department manager wages above E2300 compared with 14.3 percent for Auchan, 12.5 percent for Cora and 5.4 percent for Géant, respectively. A store size effect with wages increasing in proportion to the department surface, can be observed as well. Aside from the latter two factors, there is no significant difference of wages between store departments, except for the meat and the wine departments (in the latter one, when the department manager is a wine specialist or a cellar-man). For instance, the proportions of department managers with wages ranging at the two lowest levels (under E1200 and between E1200 and E1800/month) range from 55 to 62 percent in the dairy, fish, bakery and fresh-cut cheese departments; in the grocery department, the proportion of lowest wages is a little lower (49.3 percent) while the same proportion is much lower (34.5 and 25 percent, respectively) in the meat and wine departments (with wine specialist).

Bonus are a very limited proportion of annual wages: 62 percent of department managers have less than two months bonus, 25 percent less than one month while only 1.6 percent have more than four months bonus (march 2002 survey). Meat department managers are once again atypical with 35 percent of them having more than two months bonus.

Adding bonus to wages, we can conclude that only two professional departments provide managers with better payment conditions than other ones. A third one, the fish department, would range among the two "well paid" departments as well. Experts use to say that "you cannot put a price for a fish merchant" and that "a stinking fish department may ruin a store reputation". However, above survey data do not support such a judgement.

The promotion system is coherent with the wage one, which supports our hypothesis of the existence of a dominant information assimilation model. Surveys underline department manager loyalty to the chain and a relatively low motivation to look for better payment in a rival chain. Only 54 percent of department managers

interviewed in the IRS/Linéaires survey in march 2002, claim that they cannot consider being hired by a competing chain vs 28 percent who feel like changing chain (and 19 percent refusing to give an opinion). It is noteworthy that chain loyalty has significantly increased in the last ten years, from 38 to 54 percent, which may mean a consolidation of the assimilation model. Of course, chain loyalty varies between chains, some chains like Carrefour and Auchan being highly attractive.

For those who prove efficient as a first job department manager, promotion towards more valued jobs inside the firm may be fast changing. It is at least what we can infer from the March 2002 survey data as regards managers' age (60 percent are less than 35 years old) and the low number of department manager jobs successively performed by the same person (55 percent of department managers surveyed were on a first job position).

The promotion system has become more fluid with the creation of intermediate jobs between the store manager and the department manager. When the promotion opportunities were less numerous, department managers had to wait for a long time before being possibly offered a store manager position. They were thus losing readily motivation (LSA Dossier Manageur de rayon, Valorisez vos atouts, 10 mai 2002). Multiple retailers provide department managers with many promotion opportunities like being a department manager in a bigger store, becoming a store division manager or later, a store manager, getting a buyer position in a warehouse or even working at the national head office. As opposed to hypermarkets, most supermarkets have a few intermediate manager jobs to offer for promotion. In federated chains of independents like Leclerc or Super U, promotions are very few because limited to the store environment. Department managers are thus led to look for better employment in multiple chains. Some of them later come back to the independent system as a store manager.

Meat department managers do not follow the rules of the above promotion system and are more prone to look for employment opportunities on an outside market. Experts say that meat specialists seldom become store managers and prefer to bargain for higher wages with competing stores, selling a butcher qualification which can be easily valued outside the firm. Such a particularity does not clearly exist for the other professional departments. However, it is worth mentioning that loyalty rate for most professional department managers is 5 to 10 points lower than for standard ones. Can we predict from the latter slight difference that professional departments do not fit in well with the information assimilation Aokian model?

### *3.3 Weaknesses of the assimilation model in managing professional departments*

Transversality failure reveals a number of limits of the assimilation model, which are even clearer, as we will see it further, in the case of professional departments.

Transversality was initiated in 1999 by Auchan and Carrefour. It aims at a higher specialization of store managing functions through the grouping of supply/logistic and sales functions across departments and the creation of super division managers to take charge of those groupings. Transversality has been recently called into question by the same two chains that launched the organizational innovation. In the case of Carrefour, a major reason for abandon of the project is insufficient delineation of hierarchical decision rights. In theory, transversality department managers take orders directly from the store manager. In practice, the latter proved not having enough time to

dedicate to his department managers. Following the same transversality model, department managers are supposed to take advice from the division managers. In practice, the latter did not behave as advisers but as superiors. Auchan seems to have been concerned by the same lack of precision in hierarchical property rights definition. (Linéaires mars 2004, "Transversalité: les raisons de l'échec").

Notwithstanding, transversality has not been entirely abandoned, in particular as regards the supply organization chart. The grouping of supply-logistic functions across departments has reportedly proved quite efficient. Therefore, many hypermarkets still have their super supply division managers. Experts agree on transversality efficiency regarding goods ordering, seasonal, permanent or on sale flow optimization and stock management. The latter tends to prove that transversality is not doomed to failure but is currently in a process of revision and should be considered as a consistent contribution to the ongoing rationalizing movement and to the consolidation of the assimilation information model. Achieving transversality thus leads to drastically limit the list of functions assigned to a typical department manager and to focus on customer-specific functions that are easier to homogenize and, accordingly, to incorporate in an assimilation model.

Other limit to the setting of an assimilation model has shown up recently with the increasing difficulty to offer good career perspectives to retail managers. Despite new career opportunities given through retail internationalization, promotions become less frequent than in the past. Two major reasons for that: the French regulation that severely limits the creation of new stores and geographic mobility which is perceived as very costly to many department managers. Inside promotion being a lead incentive in the assimilation model, the difficulty in offering good career perspectives is a threat to the good working of the assimilation model. Moreover, it is not surprising that retailers have, at the same time, more difficulties to recruit department managers outside the firm (LSA Dossier Manageur de rayon, Valorisez vos atouts, 10 mai 2002).

Professional departments conflict with the logic of assimilation, more clearly than standard/branded goods departments. It is true at least for departments having a qualification that does not sell on the market, that is, for all professional departments except the meat and the wine department. Let us mention however that the wine department is not yet totally recognized as a true professional department. According to a recent survey of department managers (May 2002 IRS/Rayons Boissons survey), the call for training is higher for wine department managers than for other departments; 46 percent wine department managers call for customer advice training (vs 21 percent of meat and 39 percent fish department managers) and 58 percent call for product knowledge training (vs 51 percent of all food department managers).

To illustrate how professional departments conflict with the logic of assimilation, we will focus on the fresh produce department, for which we have some expertise. The fresh produce department, which features high supply chain uncertainty, is a third category department in our typology. In this department, coordination issues along the supply chain are more crucial than in others. The fresh produce department thus fits better than other departments to analyze how efficient are centralization and transversality that have deprived the store department manager of his buying and logistic functions. Moreover, the fresh produce department has a reputation of being the less valued (esteemed) of all professional departments[7]. Industry experts and trainers readily mention the great number of store managers that having been



questioned on how interesting it may be to better qualify fresh produce department managers through professional training, respond "... but a tomato is a tomato, who cares (what is the problem)?". The lack of professional recognition impacts negatively the fresh produce department esteem within the store. Being moreover considered as a hard and uncomfortable job, the fresh produce department serves more than the other departments, as a first job experience to test the new hired managers.

Within the incentive and coordination system, managing tools and evaluation criteria prove particularly inadequate to manage hazards faced by the fresh produce department. Some experts stress the lack of adequate management tools, that take into account product specificities such as daily price variation, frequent changes of items (SKU), of suppliers, of varieties, of packaging. Other factors contributing to such inadequacy are the lag of the fresh produce industry in product standardization and EDI adoption and the missing direct connection between store check out cashiers and the central information system forbidding instantaneous sales analysis (Echo des Min, hors série, spécial grande distribution, 2004).

For the same reasons, no relevant criteria is available to give incentives to or to assess the activity of a department manager. Overall sales was traditionally used as a criterion but fails to efficiently take into account swings in FOB prices and quality high variation; net margin has progressively become the prevailing criteria since purchasing is centralized; it tends to neglect cheap fresh produce and is thus, relatively inadequate as well. The labor factor is under close scrutiny as well and is evaluated through the "Added Value per labor hour" criteria. Priority to this criteria has been given within the prevailing labor cost downsizing policy. Industry players voice their opposition to such a policy arguing that it conflicts with an objective of qualitative supply and leads to a decrease of other efficiency criteria, in particular of the shrinkage/loss ratio (LSA April 2003). Some experts give the example of chains that were trying to downsize labor costs by two or three points and saw their loss ratio soaring from a standard 3 percent ratio to 10 percent (Echo des Min, special issue 2004). The above criteria are not helpful either to calculate efficient bonus incentives for department managers.

Poorly supported by the above inadequate management/evaluation criteria, the inside promotion based incentive system results in high labor turnover, weak professional training efficiency and critical specific knowledge accumulation issues (LSA, April 2003).

Wrong incentive and coordination mechanisms alignment with professional department specificities results in poor efficiency and a number of unexpected consequences such as loss ratio in excess, price over-rating practices as an offset to inadequate management tools and overall, unsatisfied consumers criticizing retailers for fresh produce poor quality. According to some experts, inefficiency costs would amount to between 2 and 4 percent of the fresh produce department sales turnover. The latter include product losses and shrinkage and loss of earnings due to disruption in supplies or supplies that do not fit in with customer expectations (Echo des Min, hors série, spécial grande distribution, 2004).

#### *3.4 Emerging encapsulation models result from the above tensions*

The strategic importance of the fruits and vegetables department, competition from alternative channels and the will to differ through private labels lead chains to adopt

alternative coordination modes that emphasize professional skills. Such alternative modes feature significant informational connectedness between department managers and the supply chain. As evidenced in the 2001 CEGOS survey, there is a variety of organizational forms connecting fresh produce department managers to suppliers. Thus, if supplier reception and store-specific adds negotiation are still undertaken by most department managers (92 and 87 percent, respectively), it is not the same for the bargaining of listing specific fees or the bargaining with non-nationally listed suppliers which differ across chains in line with their organizational policies and status, federations of independent chains giving more leeway to fresh produce department managers. Thus, bargaining with suppliers is still a main department manager function in Hyper U (80 percent) and Leclerc (74 percent), but a declining one in Auchan and Carrefour (21 and 33 percent).

Connection of fresh produce department managers with supply chains is perceived as crucial for qualitative management of the department. It may simply mean close coordination with the warehouse or be more radical when the department manager is given a purchase function. In both cases, it works as a strong incentive for the department manager who thus keeps some power of decision or control to manage product specific uncertainty. In terms of informational logic, internalizing all or part of the purchase function brings the informational model close to the encapsulation one.

In a special issue of the professional journal, *l'Echo des Min* (2004), dedicated to fresh produce retailing, interviews of key-actors and experts illustrate how important is the survival or the revival of the purchase function. Independent retailers insist on the role of the department manager's involvement in sourcing. "We sell good what we purchase good" says a director of CORA where only 35 percent of fresh produce purchases are centralised. In one of the regional warehouses of Leclerc (SCA Centre), each department manager acts as a buyer in charge a line of items for the other 20 stores depending on the regional warehouse and spends one hour per day to care about purchase. In some multiple chains, leeway given for direct purchase – independently from the warehouse buyer – constitutes a strong incentive for fresh produce department managers. Purchasing autonomy is as important a criterion as wages and bonus to fresh produce department managers when looking for the same job in an alternative chain.

Most chains insist on the need of close relationship between department managers and warehouse buyers. Carrefour, for example, argues that high variations in supply and prices require daily contact by phone between department managers and purchasers in order to complete and comment the list of orders. Auchan is testing an assessment system of the warehouse purchaser based on the results of the five or six stores under his responsibility. This should be an incentive for purchasers to a stronger coordination with department managers.

Above coordination and incentive systems enable the development of more qualitative departments through for instance the setting of traditional stalls or fresh cut workshops. Although such cases are still the exception, high profitability leads store managers to plead for more professional fresh food departments like fishery, fruits and vegetables, bakery. One of them says: "We have been inclined to ignore food professional qualifications when recruiting department managers. Today we draw back and give greater importance to specialists. Consequently, we benefit from a very

strong dynamic in these departments in particular when managers have a stake in the results.”

#### 4. Conclusion

The department manager job has been undergoing crucial changes in the last few years through increased purchasing centralization and transversality reordering at the store level. Oriented by a homogenizing vision of department manager practices and impelled by an objective of greater economies of scale, the two radical changes have deprived the department manager of some major prerogatives like his role as an expert or a team leader in charge of managing local product specific hazards. This new retail policy tends to ignore that some departments may have a strong local idiosyncratic environment and support an instrumental vision where a department manager is a mere cog or even a plain executant, implementing and adjusting upstream marketing decisions regarding assortment, prices or merchandizing.

Drawing on the Aokian informational theory of the firm which identifies three fundamental organizational modes, we give insights into some human resources implications of current retail organization policy. In particular, we show that there is a clear divide between, on the one hand, standard departments that fit in well with the recent organizational changes which develop along the Aokian information assimilation model and, on the other hand, professional departments which conflict with the logic of assimilation and call for implementing an encapsulation model. Such interpretation is supported by recent (partial) abandon of transversality by the two chains that pioneered the organizational change and the increasing number of practices that move away from the assimilation model.

However, our analysis is still exploratory. Although we may infer from a number of stylized facts that there is need for a better accounting of product/department specificities, a more fine-tuned analysis of organizational practices efficiency is required. Beyond the statement of differences in product/department organizational practices, there is need to finely compare retailers human resources policies in terms of efficiency and coherence, which in turn, will allow for testing our Aokian interpretation. Applications of the Aokian grid may further enrich the empirical starting crucial debate on how efficient are the diverse retail organizational practices across departments at a store level.

#### Notes

1. Books on retailing management or economics by Benoun and Héliès-Hassid (2003), Cliquet *et al.* (2003), Despois (2003), Fernie *et al.* (2003), Levy and Weitz (2003) and Newman and Cullen (2002) have a unique chapter on this topic.
2. Notice that this point is the founding principle of departments differentiation: are in the same department products that answer the same kind of consumer needs, and having the same characteristics, so fresh products vs dry food, etc.
3. Notice that firm policy also matters and can influence how product specificity impacts department organization.
4. Is specific a skill that is not redeployable without cost on the market (to quote Williamson, 1985).
5. Notice that this analysis is strongly influenced by the kind of technologies in force in retailing firm. An historical analysis of how information technologies (IT) have determined

the change of management principles would be insightful. For instance, scanning systems enabled the centralization and the automation of replenishment decisions (Appay, 2001). In the same way IT has permitted to define merchandising decisions that combine national and local data (Trade area, contextual factors, etc).

6. FCD underpins in its 2001 sector report that 47 percent of the outlets have experienced during the year 2001 difficulties to recruit department managers (Points de Vente Octobre 2002, Les distributeurs charmeurs de cadres).
7. Owing to high sales turnovers ranging from 76k€ to 5ME depending on the store size, and high gross margins ranging from 23 to 30 percent, the fruit and vegetables department is also considered as the store "cash cow", as the department which empowers the other fresh produce departments (L'écho des Min, hors série, spécial grande distribution, 2004).

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