Elements of Pharmacy Service and Patient/Consumer Satisfaction

Liliane Bonnal[a]
University of Poitiers

Xavier Moinier[a]
University of Poitiers

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Abstract:

The objective of this research is to identify the characteristics of a retail pharmacy that make it possible to better satisfy the patient/consumer and to analyze their modes of contribution to this satisfaction. The usefulness of our study is to deduce managerial implications which should permit pharmacy owners to define the pharmacy service elements that must be adjusted to increase the satisfaction level of their patient/consumers. The "tetra-class model" of factors contributing to satisfaction in a pharmacy service experience will serve as the basis for comprehending the role of the different characteristics of a pharmacy in the satisfaction process.

Keywords: Healthcare, pharmacy, satisfaction, patient/consumer, pharmacy service elements, tetra-class model

[a] Address correspondence to:
liliane.bonnal@univ-poitiers.fr
xavier.moinier@univ-poitiers.fr
Prof. Liliane Bonnal and Xavier Moinier ;
Université de Poitiers, Faculté de Sciences Économiques
93 avenue du Recteur Pineau, P.O. Box 623
86022 Poitiers Cedex, France

Introduction

In France, the pharmacy outlet is legally defined as "the establishment dedicated to the retail distribution of medicine, products and objects reserved for pharmacists", as well as to the execution of medical or pharmaceutical preparations (Art. L. 5125-1, Public Health Code). In the particular context of the French monopoly of pharmaceutical distribution, pharmacists have long considered the client entering their outlet as a patient and not as a consumer. Today however, real competition between outlets does exist as a result of the mutation in the sector of pharmaceutical distribution (Moinier, 2009). This transformation leads pharmacists to view their clientele differently, notably in its consumer behavior. Among the different variables of consumer behavior that could be analyzed, satisfaction appears to be central for the improvement of the quality of service in a situation of market monopoly (Fornell, Johnson, Anderson, Cha and Bryant, 1996). Moreover, satisfaction is considered a prerequisite to repeat purchase intentions, to client loyalty and to a favorable word-of-mouth reputation (Anderson Fornell and Lehmann, 1994; Heskett, Jones, Loveman, Sasser and Schlesinger, 1994; Jones and Sasser, 1995; Rust, Zahorik and Keiningham, 1995).

The objective of this research is to identify the attributes of a pharmaceutical outlet that make possible greater the patient/consumer satisfaction and to study the contributive mode of these characteristics. The value of this study is to deduce the managerial implications that should enable pharmacy owners to define the elements of service which must be adapted to improve the satisfaction of their patient/consumers. The "tetra-class model" (Llosa, 1997) of factors contributing to satisfaction during a pharmacy service experience will serve as the tool for apprehending the role of different pharmacy characteristics in the satisfaction process.

In the first part of this article, we set out the conceptual framework and the hypotheses of the research methodology. In the second, we present the findings of the empirical study. Lastly, we will discuss their managerial implications.

The Conceptual Framework

Context of French Pharmacies

The French pharmacy context is unique in Europe to the extent that pharmaceutical distribution belongs exclusively to pharmacists (Table 1). As a consequence, the patient/consumer is obliged to use this type of outlet when buying medicine. This obligation no longer holds for those pharmaceutical products that may now be marketed in supermarkets or specialized superstores, the consumer being able to arbitrate between outlet choices.

Table 1 here.

Pharmacists, who have been protected until now, run the risk of having to adapt to new organizational modes and to the resulting new economic challenges. While pharmacy property is still regulated in France – a pharmacist not being able to own more than two outlets – the possibility for him to invest in several pharmacies seems to be taking shape. The creation of pharmacy brand-name signs should then become possible (open or not to non-pharmacists – see Moinier, 2009). If that prospect materializes, the modification will not be without consequence for operating a pharmacy since pharmacists would inevitably have to begin implementing a marketing strategy, not only to attract patient/consumers, but also to develop loyalty to their outlet. To do so, pharmacy owners will have to take an interest in patient/consumer satisfaction and in the attributes that characterize it.

Patient/Consumer Satisfaction

Satisfaction, defined as "an affective state resulting from a cognitive and emotional evaluation process that occurs during a specific transaction" (Plichon, 1999), would become henceforth the veritable focal point of the strategy for pharmaceutical outlets since it increases the efficiency of the firm's publicity and communication (Luo and Homburg, 2007). The satisfaction derived from a buying experience could be the fundamental factor for judging satisfaction at the pharmacy, especially because this service element concerns the

patient/consumer's health and well-being (Bolton and Lemon, 1999). In the specific context of pharmacy services, satisfaction has been the subject of few studies: Foscht, Angerer and Moazedi (2006) for Austria, and Clerfeuille, Poubanne, Vakrilova and Petrova (2008, 2009) for Bulgaria. Such investigation of satisfaction enables the pharmacist to reinforce intended loyalty to the outlet, accentuated by the individual's high level of implication in an act of purchasing that is devoted to health and well-being.

Classically, satisfaction is conceptualized as a one-dimensional continuum, opposing two extreme poles (very satisfied versus very unsatisfied): positive and negative (Howard and Sheth, 1969; Oliver, 1980; Woodruff, Cadotte and Jenkin, 1983; Westbrook, 1987). Other authors in marketing believe satisfaction to be two-dimensional (Swan and Combs, 1976; Maddox, 1981; Silvestro and Johnson 1992; Smith, Weatherly and Tansik, 1992), considering that the factors engendering satisfaction are different from those causing dissatisfaction. Finally, a last group of researchers seems to synthesize the two versions by considering satisfaction as one-dimensional while at the same time supposing non-linearity in the function of factors contributing to satisfaction. These non-linear effects have led marketing researchers to investigate the asymmetry of factor impacts on satisfaction and to create plurifactorial models. The idea of this theory is that the contrary of satisfaction is not dissatisfaction but non-satisfaction (Kano, Seraku, Takahashi and Tsuji, 1984; Ray and Gotteland, 2005). Several types of factors can then engender satisfaction (or dissatisfaction). The four modes of contribution that are most often identified in the framework of satisfaction research are:

- "Basic" factors contributing to dissatisfaction when they are considered negatively, but which do not contribute to satisfaction even when evaluated positively,
- "Attractive" or "plus" factors that contribute to satisfaction only when evaluated favorably but that do not play a role in dissatisfaction,

- "One-dimensional" or "keys" factors that contribute to satisfaction when they are favorably evaluated, and which contributed to dissatisfaction when the evaluation is unfavorable,
- "Indifferent" or "secondary" factors that have little or no impact on the level of satisfaction or dissatisfaction.

Several methodologies are available for use. With her tetra-class model, Llosa (1997) takes into consideration two classes (positive versus negative). In the modeling proposed by Brandt (1988), Mitall, Ross and Baldasare (1998), Brandt and Scharioth (1998), or also Vanhoof and Swinnen (1996), three classes are considered (positive, neuter, negative). While these latter two methods are more general, they could not be implemented in this study because the data were not suitable. We have therefore selected Llosa's (1997) tetra-class model, which has the advantage of presenting, by means of simple and visual mapping, the weights in general satisfaction of the elements under consideration. In addition, this model possesses an established external validity with regard to various research projects in which it has been used, in the framework of quite varied service activities (Bartikowski and Llosa, 2004; Sabadie, Prim-Allaz and Llosa, 2006; Merdinger-Rumpler, 2009; Clerfeuille, Poubanne, Vakrilova and Petrova, 2008, 2009 for recent applications). In the tetra-class model, the contribution of elements to satisfaction is calculated through correspondence analysis in a contingency table. In the columns of the table are the modalities of an index of general satisfaction, reduced to two classes (positive satisfaction/negative satisfaction, which in the context of this study amounts, to positive satisfaction/non-positive satisfaction), while the elements capable of influencing satisfaction appear in the rows. Two rows are devoted to each element of pharmacy service. This analysis supposes that a single factorial axis suffices to explain the variance of the set under study. This axis is interpreted as an axis of satisfaction along which figure two modalities of general satisfaction and two modalities for

each element (positively and negatively evaluated). The more these elements are positioned toward the extremities of the axis, the more they contribute (positively or negatively) to satisfaction of the patient/consumer. A simple way to represent graphically the results of this analysis is to consider a plane in which points along the abscissa show the contribution of elements to the level of general satisfaction of the patient/consumer when he considers them negatively and in which points along the ordinate show the contribution of elements to the level of general satisfaction when he considers them positively. The coordinates are normalized using the index of general satisfaction. The normalization makes it possible to establish the frontiers and distinguish the four categories of elements that are defined in the framework of multifactor models.

Analytical Framework of Satisfaction at Retail Pharmacies

Measurement of satisfaction

In our study, consumer satisfaction is analyzed using the Foscht scale (Foscht et al., 2006), which was tested in the context of Austrian pharmaceutical distribution with 400 respondents. We questioned those in our sample about satisfaction in general with respect to their pharmacy but also about the service elements in particular (Appendix A1). These elements make possible the conceptualization of a satisfaction process that is as much emotional as cognitive. Its application in the French context required implementing a process of translation, retro-translation that many researchers recognize as necessary to assure the comparability of data collected by means of different languages. The problems of lexical and metric equivalents of the data arise to a lesser degree since our study is carried out solely on the national level and does not attempt to compare the data collected from one country to another (Bartikowski, Chandon and Gierl, 2006). To measure satisfaction, we choose the D-T (Delighted – Terrible, Westbrook, 1980), which has been used in the framework of research

on consumer behavior and has proved to be reliable. We also measure a general appreciation of pharmacy satisfaction on the same scale.

The Research Hypotheses

These hypotheses concern the five categories of elements defined in Appendix A1.

H1: The multifactor model may be used with French data to study patient/consumer satisfaction in terms of retail pharmacy services.

H2: The elements of pharmacy services linked to the staff and to the pharmacists are "key" elements.

When the patient/consumer goes to the pharmacy, he entrusts his health and well-being to the pharmacy personnel. A relationship of confidence must therefore become established between the two. This relationship can only be durable if the patient/consumer is satisfied with service elements such as competence, listening skills or personnel friendliness. Positive evaluation of these elements should exert a positive effect on general satisfaction, while a negative evaluation should act negatively. In such a case, we are in fact dealing with one-dimensional service elements. These elements touch the heart of the pharmacist's trade, as much in terms of knowledge as of know-how.

H3: The atmosphere of the pharmacy, characterized by the first impression and by product presentation, is a "secondary" element.

In certain circumstances, the atmosphere at the sales outlet may have more importance that the product itself (Kotler, 1973). Here, the atmosphere is characterized by two types of elements. The first type is related to product presentation, which is to say: to the deliberate conception of space inside the pharmacy itself (access to shelves, to products, the ambiance, lighting, self-service areas…) for the purpose of producing certain effects on the patient/consumer. The second type is linked to the conception of the pharmacy's exterior – put otherwise: to the first impression (entrance, shop window…). Generally speaking in

France, pharmacies are not considered to be commercial outlets, the Order of Pharmacists declaring that the pharmacist has “public service missions” and must “guarantee the respect for the requirement of public health and consumer protection”. In addition, the patient/consumers who enter the pharmacy come for medicines that are in most cases physically inaccessible. The before-the-counter service elements are relatively undeveloped in France, or limited to over-the-counter drugs, personal care and hygiene products, and vitamins and food supplements. As a consequence, the elements that characterize the atmosphere of the outlet should not affect satisfaction.

H4: The elements related to the quality of pharmacy services are elements that fluctuate between “basic” and “plus”.

The elements characterizing the quality of pharmacy services are: the *medicine in stock*, the *quality of the medicines*, the value for the money of the drugs or *quality/price ratio*, and the *waiting period*.

The pharmaceutical distribution monopoly obligates the pharmacist with respect to the availability and the quality of the drugs. This obligation makes failure of this service quasi-impossible. Nevertheless, it may occur due to stock management problems, or to lack of storage space, that the totality of the prescribed medicine cannot be provided when the patient/consumer comes into the pharmacy. He is then forced to come a second time. An alternative is then possible: either the patient/consumer judges positively being able to obtain all the products prescribed and thus places a positive value on the *drugs in stock*, which becomes a “plus” element; or he judges negatively having to return to the pharmacy due to the lack of stock, which makes this service element “basic”.

The consumer may have difficulty appreciating the quality/price ratio of medicines due to lack of medical expertise; but as in the case of a classic retail outlet, the favorable perception of the *quality/price ratio* should qualify this element as “plus”.

The waiting time seems to be justifiable on the grounds of the rigor necessary to deliver the medicine; but a priori, the shorter the waiting period, the more the element should have a positive impact on satisfaction.

H5: The service elements related to outlet location are "plus" elements.

The size of pharmacy sales regions is subject to French regulation fixing quotas for pharmacy implantations. France has an important number of pharmacies throughout the territory in both rural and urban zones. The patient/consumer can find a pharmacy near his place of residence or his healthcare center. Thus, *store location* is a service element that contributes to satisfaction if evaluated positively, but does not play a role in dissatisfaction.

Access to the store is often facilitated by parking space reserved for the clientele or by the existence of parking space belonging to the commercial area when the pharmacy is in a shopping mall. This service element may therefore be considered as a "plus" element.

The Data

The study is based on a consumer satisfaction survey carried out over 1000 patient/consumers older than 18 who live in two regions of France (Poitou-Charente and Midi-Pyrénées). The survey was administered by electronic mail. 273 persons from different households responded to the questionnaire. No follow-ups were sent because the responses to questions were entered directly on the Internet, using the LimeSurvey software. Since anonymity was completely respected, we are unable to know who filled in the questionnaires and who did not. For this reason, it would have been difficult to send follow-ups. The questionnaire includes a first section concerning patient characteristics (age, sex, number of children, profession), his shopping habits at the outlet (pharmacy client, regularity of visits), and the nature of his purchases (prescription and over-the-courter drugs, personal care and hygiene products or cosmetics). The second section of the questionnaire evaluates the

satisfaction criteria proposed by Foscht *et al*. (2006). Twenty elements of pharmacy service, which may be regrouped into five categories (Appendix A1), were evaluated (Appendix A2).

The descriptive analysis necessary for any statistical treatment enables us to characterize the sample. The average age of the patient/consumer in the sample is 47 (this is exactly the same average age as in the French population over 16 for the year 2009 but the sample population under 25 and over 60 represents respectively 7% and 16%, which is underrepresented in comparison to the national distribution). From the point of view of patient/consumer behavior, three out of four enter a pharmacy at least once a month. Their presence in the pharmacy is essentially linked to the purchase of medicine prescribed by a doctor, one person out ten never buying non-prescription drugs, and one out of three never buying and personal care and hygiene products or cosmetics.

Determination of the One-dimensional Axis Associated with Satisfaction

On the whole, patient/consumers are satisfied (Appendix A2). For all the questions related to satisfaction, the scale employed varies from 1 to 7. With a score of 4.70 out of 7, the weakest average registered is for the *quality/price ratio* element, 11% declared they were dissatisfied and 33% were undecided. The highest average registered is for the *competence* element with a score of 5.93 out of 7, less than 2% (5 individuals) declaring that they were dissatisfied, 10% being undecided. The average associated with the level of general satisfaction is 5.72. Only one consumer declared that he was dissatisfied with his pharmacy. 12% have an unsettled opinion. On the whole, regardless of the element under consideration the number of dissatisfied (having checked a score inferior to 4) is very low and represents less than 7% (except for the *self-service space* and *quality/price ratio* elements, Appendix A2).

Confirmatory factor analysis shows that all the criteria selected for measuring satisfaction can be reduced to a single axis (Foscht *et al*., 2006), which in our study represents 58% of the

variance. Cronbach's alpha is 0.95. All the elements have factor weights greater than 0.5, except for *store location* (0.48) and *store accessibility* (0.46). These weighs being nevertheless relatively high, we have retained them for the remainder of the analysis in order to work with the same satisfaction criteria as those validated by Foscht *et al*. (2006). To verify the internal coherence of the scale and analyse its reliability, we calculated Cronbach's alphas coefficients using SAS software. All are greater than 0.9, they demonstrate that the measurement tool thus developed does possess good-quality reliability.

The Tetra-class Model

Several other models might have been used to test the working hypotheses. However, the small number of dissatisfied respondents – as much for the level of general satisfaction as for the various elements of pharmacy service – hinder the use of techniques capable of measuring satisfaction and dissatisfaction (Brandt and Scharioth, 1998; Vanhoof and Swinnen, 1996; Ray and Gotteland, 2005) on the basis of three classes (satisfied, neutral and dissatisfied). We empirically validated the proposed hypotheses by means of the tetra-class model, which does not require such segmentation.

The contribution of pharmacy service elements to satisfaction was calculated by carrying out multiple correspondence analysis of factors in a contingency table that includes the modalities of the index of general satisfaction, which have been reduced to two modalities (positive satisfaction/non-positive satisfaction) in the columns, and along the rows, the set of pharmacy service elements entering satisfaction, which have also been regrouped into two modalities (positive satisfaction/non-positive satisfaction). The decomposition into two modalities is founded upon the statistical method of segmentation depicted in classification and regression trees (the C&RT models). This method permits the separation of the scores of each element into two groups that have the greatest power of discrimination, the C&RT binary segmentation algorithm identifying homogenous subgroups by generating "cut points"

in the classification tree (Breiman, Friedman, Olshen and Stonce, 1984). Such segmentation makes it possible to obtain two classes whose inter-class variance is maximized and whose intra-class variance is minimized. For most of the 20 elements, the positive modalities were the scores 6 and 7, the negative (non-positive) modalities assuming other values (see Appendix A2).

The Results

The results of study will permit the verification of the proposed hypotheses.

Test of H1: *The multifactor model may be used with French data to study patient/consumer satisfaction in terms of retail pharmacy services.*

Figure 3 allows us to observe that this hypothesis cannot be rejected. The elements of pharmacy services jointly contributing to the patient/consumer satisfaction present different contributive modes. This conclusion is compatible with the research done on Bulgarian data (Clerfeuille *et al*., 2008 and 2009). Unfortunately, since the pharmaceutical systems and the questionnaires were different, it is not possible to compare the two studies and to generalize over the whole set of results.

The distribution of pharmacy service elements according to the contributive modes as defined by the tetra-class model is the following:

- "Keys" factors: *competence*, *personnel friendliness*, *listening skills* and *medicine in stock*,
- "Plus" factors: *pharmacy location*, *store accessibility*, *self-service area* and *quality/price ratio*,
- "Secondary" elements: *medicine quality*, *waiting time*, *lighting*, *entrance atmosphere*, *shop design, freedom of movement in the pharmacy*, *information*, *access to products and to shelves*, *presentation*, *window display*.

We note that there are no "basic" elements.

Figure 1 here.

Test of H2: *The elements of pharmacy services linked to staff and to pharmacists are "key" elements.*

This hypothesis cannot be rejected. The "key" elements strongly contribute in all cases to the degree of general satisfaction. These specific elements, related to the heart of the pharmacy profession (*competency*, *listening skills*, *personal friendliness*), confirm the patient's attachment to the pharmacist's interpersonal skills and knowledge. These results are similar to those Foscht *et al*. (2206) presented in their study of the Austrian pharmacies whose economic model of pharmaceutical distribution is identical to the French model. The results differ from those Clerfeuille *et al*. (2008, 2009) obtained from a study in Bulgaria. These authors actually found that the service elements linked to pharmacy practice (*personal friendliness, competence*, *clarity of explanations*, *time spent with the pharmacist*, *consultation time*) are "basic" elements. It appears that the French patient/consumer seems to be more attached to these elements (which he considers as "key") than the Bulgarian patient/consumer. This difference may be due to the fact that the elements tested in the two studies are not exactly the same and therefore not directly comparable.

Test of H3: *The atmosphere of the pharmacy, characterized by the first impression and by product presentation, is a "secondary" element.*

Here again the hypothesis cannot be invalidated. With the exception of the *self-service area*, the "secondary" elements, which are all related to merchandizing within the pharmacy, do not have a primary role in satisfaction. Overall satisfaction is not increased by the outlet's layout (*window display*, *ease of movement within the pharmacy*, *access to products and to shelves*, *presentation or shop design*…). This finding truly raises questions concerning the managerial practices and organizational preferences of pharmacists, notably of those belonging to pharmacist groups, who make use of these service elements to compare

favorably with their competitors. We nevertheless note that such results conflict with those Foscht *et al*. (2006) observed in Austria. Indeed, they found that these secondary elements are essential to the Austrian patient/consumer's satisfaction.

The *self-service area* is evaluated in this research as a "plus" service element. In the French context, while such space does exist in some pharmacies, it plays no role in dissatisfaction and is not an attraction for patient/consumers. They enter a pharmacy to have medicine delivered to them and not to stroll about in a self-service area as in a classic commercial outlet. However, when this space is positively evaluated, the service element does contribute to satisfaction since it permits access to pharmaceutical products and to frequently used personal care and hygiene products and cosmetics. This result is comparable to the finding of Foscht *et al*. (2006) in Austria.

Test of H4: *The elements related to the quality of pharmacy services are elements that fluctuate between "basic" and "plus"*.

The hypothesis H4 can be rejected for the elements that relate to the following service elements: *waiting time* and *medicine quality*, but it is not the case for the *quality/price ratio*.

The *quality/price ratio* of medicine is usually found among the "plus" elements because in most cases the patient/consumer does not pay for the drugs delivered in pharmacies. Even so, if the patient/consumer had to pay for his medicines, as for over-the-counter drugs, personal care, hygiene products and cosmetics, it seems unlikely that he would be able to appreciate their quality/price ratio. It is understandable therefore that this criterion, which affects his budget, may in the case of a positive evaluation, strongly contribute to his overall satisfaction. However, his lack of expertise may also explain why this service element detracts weakly from his general satisfaction when negatively evaluated.

The *waiting time* and *medicine quality* are "secondary" elements. Waiting time does not enter the patient/consumer's satisfaction or dissatisfaction. The delivery of medicine is

traditionally not done in urgency, and it seems normal that the practitioner take his time for pharmaceutical counseling. This waiting time seems to be integrated in the patient/consumer's consumption experience and does not belong to his high-priority pharmacy service elements. It should be noted that some pharmacy outlets attempt to develop counters for pharmaceutical consultations within the pharmacy, which will increase the patient/consumer's waiting time. Eventually, this variable could acquire more importance.

Since medicine quality is homogenous between the different outlets, it is not surprising that this element has no effect on satisfaction.

Lastly, the *medicine in stock* is a "key" element for the patient/consumer. We proposed the hypothesis that pharmacies have in stock all the medicines and therefore considered this element as "basic" since patients would very rarely be confronted with a stock shortage. Patient/consumers' purchase experience shows this element to be essential, leading to the belief that they cannot accept leaving the pharmacy without their medicine or that they frequently face stock shortages.

Test of H5: *The service elements related to outlet location are "plus" elements.*

The study validates the hypothesis. The "plus" elements (*store location* and *accessibility*) strongly contribute to the level of overall satisfaction when they are positively evaluated or detract weakly in the opposite case. The Austrian study by Foscht *et al*. (2006) does not show a significant link between these elements and overall satisfaction, emphasizing that the patient/consumer may choose a competitor less well situated and accessible if he judges the pharmacy services are better there.

Discussion, Implications, Limits and Directions of Research

Discussion and implications

The number of articles devoted to health and marketing demonstrates how much this theme has opened new fields of research over these past years (Stremersch and Van Dyck,

2009). The study of satisfaction of the consumer confronted with elements of pharmacy service, which is still rare, fits into this dynamic. It notably enables the pharmacist – facing a future of evolving pharmaceutical distribution – to adapt managerial practices. It also contributes to permanently anchoring pharmacies in the medical value chain (Stremersch, 2008), guaranteeing in this way their place as a central link in French pharmaceutical distribution.

The analysis of pharmacy satisfaction using the tetra-class model leads to important managerial implications for practitioners on two levels.

First of all in the short run, stressing service elements contributing to patient/consumer satisfaction enables the pharmacist to define his managerial actions more clearly. The pharmacy's marketing strategy is played out today in front of, as well as behind, the counter.

In the first case (in front of the counter), the issue is to propose the pharmacy's offer, placing it within the patient/consumer's reach without restriction. Our research shows that on this level, merchandizing at the sales outlet seems to have no effect on the patient/consumer's satisfaction (cf. "secondary" elements). This finding truly raises questions about pharmacy managerial practices and operational choices of pharmacies under pharmacists' business names. Observing the evolution of the pharmaceutical distribution market in Europe, pharmacy banners are being organized notably by developing pharmacy sales points modeled on the classic commercial outlet. The layout of the area in front of the counter permits the patient/consumer to reach the pharmacy's offer of pharmaceutical and over-the-counter drugs and personal hygiene products in the widest sense. In time, it should permit an increase in the amount of the patient/consumer's average spending. Since the service elements relating to merchandizing are considered to be "secondary", pharmacists are within their rights to wonder about the soundness of this choice today. However, it is well to note that the *self-service area* is considered as a "plus" element that does contribute to the consumer's

satisfaction. This element constitutes a promising lever of attraction for the future due to the over-the-counter and pharmaceutical drugs (reimbursed or not), known as optional prescription drugs, that today are freely accessible in pharmacies and de facto present in the self-service area.

In the second case (behind the counter), we are truly dealing with the service elements inherent to the pharmacist's profession (cf. "key" elements). In this domain, beyond the managerial preoccupations underlying the evolution of pharmaceutical distribution, the pharmacist can see that his role has been strengthened with respect to services contributing to patient/consumer satisfaction.

In the medium term, if the situation of market monopoly in which pharmacists find themselves were to disappear, it may be imagined that pharmacy owners would implement commercial policies that are closer to those observed in classic commercial markets.

As for the medicine delivered on prescription, competition will not be in pricing but rather in services (*customer reception*, *competence*, *waiting time*, *medicine in stock*). These elements being "key", it is important that they be given great attention.

For personal care and hygiene products and cosmetics, non-prescription and/or self-service drugs, competition may in addition take place through pricing. Commercial and managerial policies will have to be modified and adjusted in function of the service elements of satisfaction defined by the model.

Limits and Directions of Research

Our research presents a few limits, which would be well to evoke. In our study, we started off from the principle that the motives of consumer presence in a pharmacy were identical whoever the respondent might be; to wit: the purchase of medicine and/or non-prescription drugs, personal care and hygiene products, cosmetics. Yet, it could very well be that

patient/consumer expectations may not be the same according to the reason for the presence in the pharmacy.

In addition, we did not distinguish in the analysis the organizational mode of the pharmacy outlet patronized by the persons questioned. Indeed, while pharmacists are traditionally "independent", some of them have joined pharmacy groupings, which are groups of pharmacists – who are financially unconnected owners of the license. (The pharmacist is owner of one or two pharmacies. For a more precise definition, see Moinier, 2009). In this way, the pharmacy grouping assures their outlet members benefit from the network's own merchandizing, integrating a whole set of specific services. The differentiation of these pharmacies operating under a group of pharmacists is essentially the result of this group contribution. In view of the our findings in this study, it would be interesting to compare the patient/consumer's satisfaction according to whether or not the pharmacy patronized belongs to a pharmacy operating under a group of pharmacists. Indeed, are the service elements still classed as "secondary" by the pharmacies working in a group that pays particular attention to the outlay and atmosphere of the sales outlet?

These two last remarks would necessitate performing this investigation by taking into account the two segmentation types. Clerfeuille and al., (2008, 2009) show for example that the elements characterizing satisfaction are different by segmenting their sample in function of the patient/consumer's habitation zone (rural or urban). Modeling in terms of store location could be carried out, accounting for the pharmacists' customer catchment area (city center, commercial center, near suburb, or still, rural zone). Segmented analyses could also be done based on patient/consumers' socio-demographic variables such as age for instance. It would seem logical that the older the patient/consumer, the more he would be loyal to his pharmacy. This loyalty should modify his perception and degree of satisfaction. All such segmentations, however, require a larger sample size.

Furthermore, we have not accounted for the customer relationship that plays a role in the consumer's overall satisfaction (Garborino and Johnson, 1999) although the patient/consumer does seem to attach great importance to the relationship with the pharmacy's owner (Moinier, 2006). In the end, loyalty to a sales outlet would seem to be the objective for pharmacists to attain by mobilizing the most pertinent pharmacy service elements. However, the relation between satisfaction and loyalty is not that immediate, and the mediating variables that have been revealed in the literature need to be studied. Consumer commitment and confidence (Morgan and Hunt, 1994; Macintosh and Lockshin, 1997; Garborino and Johnson, 1999) could for example have an important role in explaining this link.

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Appendix A1. Customer Satisfaction and the Austrian Retail Pharmacy Industry seen from a Growth-Oriented Perspective (Foscht *et al*., 2006)

First Impression	Presentation of products	Staff and Pharmacist	Quality/price ratio	Location
Shop design	*Possibility to move*	*Friendliness*	*Medicine in stock*	*Store location*
Window display	*freely*	*Expertise*	*Quality of medicine*	*Store accessibility*
Shop lighting	*Easy to find products*	*Compassion*	*Waiting time*	
Entrance	*Access to shelves*		*Quality/price ratio*	
Atmosphere	*Self-service area*			
Information	*Product presentation*			

Appendix A2. Elements of General Satisfaction and descriptive Statistics Associated with the Different Elements in the Satisfaction Scale

Service element	Mean	Standard deviation	Minimum	Maximum	C&RT*	Proportion of C&RT scores (in %)	
						1-3	4
General satisfaction	5.7	0.96	2	7	6-7	0.5	10.5
Shop design	5.3	0.94	2	7	6-7	2.0	17.6
Window display	4.9	1.08	2	7	6-7	5.5	36.3
Shop lighting	5.5	0.97	2	7	6-7	1.0	15.8
Entrance	5.4	1.04	3	7	6-7	2.9	20.5
Atmosphere	5.5	1.08	1	7	6-7	2.5	14.7
Information	5.2	1.17	1	7	6-7	6.5	20.2
Possibility to move freely	5.3	1.15	2	7	6-7	7.0	16.5
Easy to find products	5.2	1.13	1	7	6-7	6.2	22.7
Access to shelves	5.1	1.14	1	7	6-7	6.6	23.8
Self-service area	5.0	1.14	2	7	5-6-7	9.2	27.5
Product presentation	5.2	1.11	1	7	6-7	5.1	21.3
Friendliness	5.9	1.11	2	7	6-7	2.5	8.4
Expertise	5.9	1.07	2	7	6-7	2.0	10.3
Compassion	5.9	1.10	2	7	6-7	2.0	11.0
Medicine in stock	5.2	1.15	1	7	5-6-7	7.3	16.5
Quality of medicine	5.8	1.05	2	7	6-7	1.0	20.2
Waiting time	5.3	1.12	1	7	6-7	7.0	12.1
Quality/price ratio	4.7	1.21	1	7	5-6-7	11.4	33.0
Store location	5.8	1.05	2	7	6-7	2.6	7.0
Store accessibility	5.7	1.14	2	7	6-7	3.7	8.8

* Modalities characterizing positive satisfaction, grouped according to the classification and regression.

Table1. Applications of Sales Monopoly for Pharmaceutical Products

Level of sales monopoly	European countries	Products excluded from monopoly
Monopoly applies to the sale of medicine, including over-the-counter drugs, vitamins, and food supplements	Spain, France, Greece, Italy	• Personal care and hygiene products, plus cosmetics
Monopoly of sales for medicine	Austria, Belgium, Finland, Luxembourg, Czech Republic	• Vitamins and food supplements • Personal care and hygiene products, plus cosmetics
Monopoly limited to certain medicine (excluding over-the-counter drugs)	Germany, Denmark, Norway, Netherlands, Poland, United Kingdom	• Vitamins and food supplements • Personal care and hygiene products, plus cosmetics • Over-the-counter drugs
No monopoly	Portugal, Sweden	• All

Figure 1. Pharmacy Service Elements Displayed in the Tetra-class Model