

STUDENT AWARD 2003

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Winning Contribution

**Consumer Response to Out-Of-Stock:
Decision-making process and
influencing factors**

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Consumer Response to Out-Of-Stock: Decision-making process and influencing factors

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1. INTRODUCTION

1.1 Starting point of considerations

Consumer value and satisfaction are fundamental to build consumer loyalty (to the brand) and shopper loyalty (to the store) and to increase sales and category profitability; a powerful way to create value and satisfaction is to keep shelves fully ranged (*Roland Berger, 2002*), but Out Of Stocks (OOS) are still a frequent phenomenon: it amounted to 12,2% in the '60s (*Progressive Grocer, 1968*) and amounts to 5-10% nowadays (*PwC Consulting, 2002*).

Retailers and manufacturers are concentrating their efforts to avoid OOS and their negative implications, classifiable as tangible (losses in category sales, *Campo et al., in progress*, and therefore in turnover, *PwC Consulting, 2002*) and intangible (spoiled image and decreased brand- and store loyalty, *Zinn and Liu, 2001*).

What we want to do with this essay is to draw:

- *A taxonomy tree*, of all the possible consumers' responses;
- *A decision making process diagram*, to understand how the consumer comes to a solution; and, since consumers' decisions about OOS are taken in the store, we adopted a Pos (Point of sale) perspective. Finally, the tree and the diagram can be objects of future researches as well as useful instruments to help retailers to find better strategies.

1.2 Methodology: Cross-Research Analysis (CRA)

The tools have been created through a cross-research analysis (CRA, a special kind of desk analysis), which was meant to complete the gaps of existing OOS literature, through the comparison of the valuable contributions.

This kind of study can only offer a qualitative result, since the contributions diverge greatly in hypothesis, leading so to heterogeneous conclusions, this owing to the different criteria adopted by the authors.

2. ANALYSIS

2.1 Literature review

Two main topics were considered in our analysis: i) consumer response to OOS; ii) factors driving the responses.

Consumer responses to OOS

Consumer's response is driven by multiple factors, which affect greatly the decision process; those same factors lead the researches to heterogeneous conclusions. In appendix 1 we report a table to compare the main finding in this field, here we discuss some examples.

Product and brand switching are most probable according to (1) *Walter and Grabner (1975)* and (2) *Emmelhainz et al. (1991)*, who oppose to (3) *Schary and Chrystopher (1979)*. The fact is that the study (1) took place in a liquor shop (where consumers are supposed to be well informed about the products and their possible cross-substitution) and study (2) was carried on for *best sellers goods*, whereas (3) Schary and Chrystopher focused on branded grocery. Generalizing, we can state that brand- and product substitution risks are very high.

Consumers' reactions are, then, strongly affected by products specific, as highlighted by *Campo et al. (2000)* that conducted a research on cereals and margarine: both of them are low involvement

goods, generally stocked in remarkable quantities at home, so a consumer will probably delay the purchase of those wares, if he experiences a OOS. Even if so, we have to consider that those two items can possibly lead to very different answers, since an *intra-brand* switching is not possible for cereals, whereas it is for margarine. This study has to be compared to Grabner's one, carried on in 1975 in a liquor shop. In that occasion it was pointed out that a purchase delaying was almost improbable, but this considerations was taken in years with a lower mobility; on the contrary we can state that, being alcoholic drinks high involvement goods bought for special occasions, they will be likely to undergo a purchase postponement.

Responses driving factors

As said, a multiplicity of factors intervenes in this situation: they have been classified in various categories. According to *Christopher and Schary (1979)* the leading factor is the trade off between store loyalty and consumers loyalty; in this perspective, *Emmelhainz et al. (1991)* added causes like perceived product risk, urgency of the need, intended product usage (regular usage vs. special occasion) and brand loyalty versus store loyalty, finally, *Verbeke, Farris, Thurik (1998)* included the intensity of retail competition, the degree of store loyalty and the consumer's shopping patterns.

Some other authors focused on exogenous drivers like the severity of stock-out and heterogeneity in consumer preferences, time-dependence and cumulative impact of stock-outs over time (*Bell and Fitzsimons, 1999*).

Corstjens and Corstjens (1995) preferred a cost based approach, since the consumer tries to resolve a trade off between costs of switching store and costs of switching brand; more precisely those costs are physical (time, money, mobility) psychological (frustration and inconvenience, e.g. extra effort in remembering) and related to issues as brand choice behavior, point of sale and promotional effects. In the same perspective *Campo, Gijbrecchts, Nisol, (2000)* classified the costs driven as transaction, substitution and opportunity costs and the influencing factors as product specific, consumer specific and situation specific.

Finally, *Zinn and Liu, (2001)* identified factors as consumer, demographic (non affecting), situational and store specific.

3. FINDINGS

As a consumer perceives an OOS (*Schary and Christopher, 1979*) (the OOS must not necessarily be actual: the customer could just not see the item), he goes through a process intended to minimize the loss the shopping utility. This routine comprehends three main features, which the customer undergoes till an exit.

3.1 The Steps of the Process

1. *To Buy or Not to Buy*
2. *To Substitute or Not to Substitute*
3. *SKU level decisions*
 - a. *Category choice*
 - b. *Brand, variety and size choice*

This sequence is not necessarily chronological, since the flow take place in a very short time.

In our paper we adopted the costs-based approach proposed by *Corstjens and Corstjens, (1995)* *Campo et al., (2000)* and we considered three kinds of cost:

substitution costs: Utility decreases after a switch to another alternative because of lower preference and/or higher price;
transaction costs: Monetary, in nature, including the time and the effort dedicated to shopping activities;

opportunity costs: A loss in utility caused reduced or dropped consumption in the category.
and we classified the factors in four categories (showing in which the retailer can intervene):

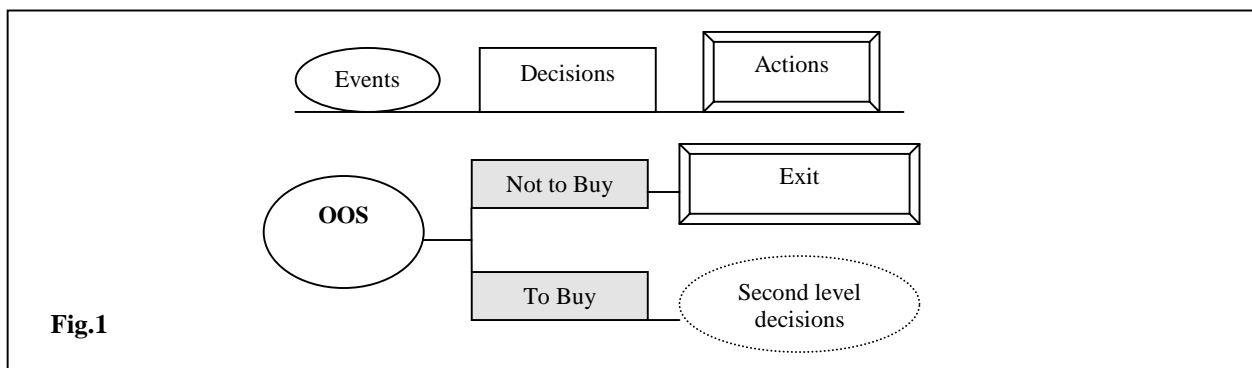
- Product specific:* Factors related to the specific product attributes (such as the need/desire satisfied by the product) and/or the typical product usage.
- Consumer specific:* Consumer features (as demography, life-style, preferences, behavior) independent from specific products.
- Store specific:* The actual attributes of the store format (such as proximity, opening time, depth of assortment) and how they are perceived.
- Situation specific:* Highly time dependent that refers to peculiarities of a specific decision/purchase occasion, which may or may not be related to a specific product category.

In appendix 2 we report a *glossary* with a larger description of each factor and of its effects.

3.2 To buy or not to buy

Responses

This is the first level decision, where the consumer actually decides if it is worth to bear other efforts in order to satisfy the needs/desires that move him. Decides he to drop the purchase, the process comes immediately to an end, whereas if he chooses to go on he faces a second level.



Factors and costs

At this very first level a trade off must be resolved: it is between the opportunity costs (purchase dropping) and substitution and transaction costs (buying another item).

<i>Action taken</i>	<i>Factor affecting</i>	<i>Type of factor</i>	<i>Kind of cost</i>	<i>Cost effect</i>	<i>Correlation with action</i>
Drop purchase (Not to buy instead of to buy)	Importance of the item	Consumer	O	+	-
	Required purchase quantity	Product	O	+	-
	Type of shopping trip (major vs. minor)	Situational	O	-	+
	Shopping attitude	Situational	O	-	+
		Consumer	T	-	-

3.3 To substitute or not to substitute

Responses

To go through the second level means that both time and place of purchase must be decided, as shown in the following matrix:

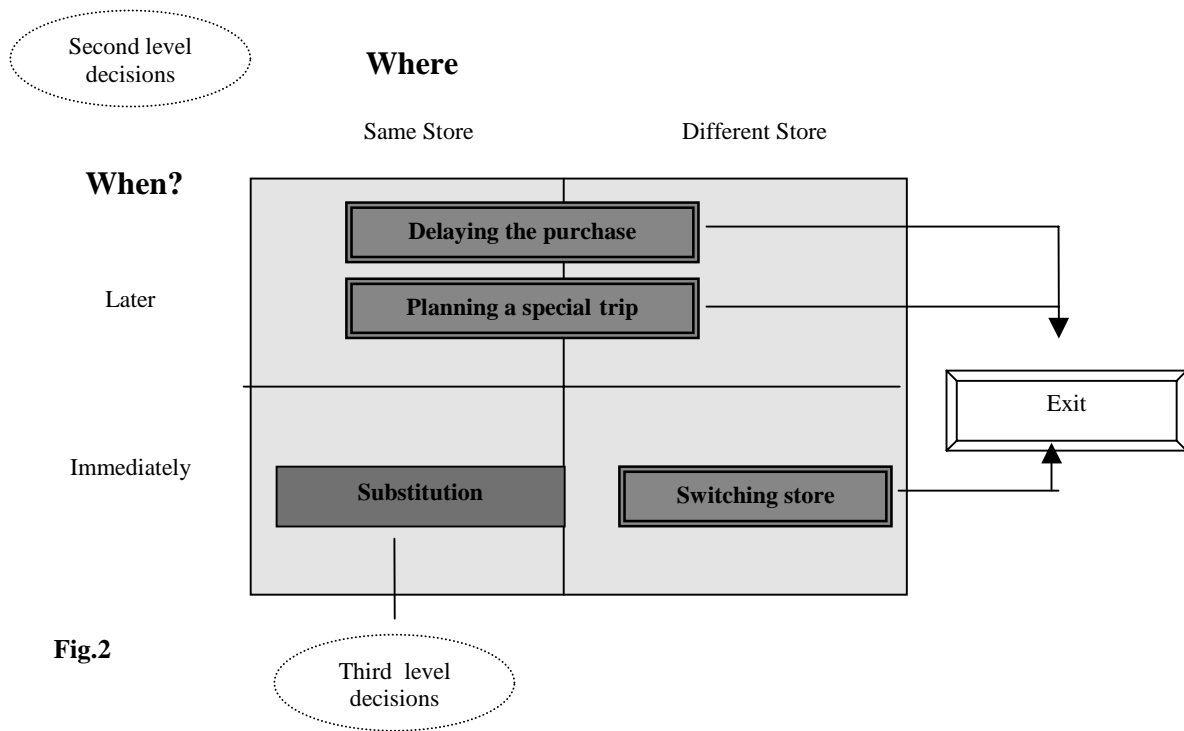


Fig.2

The actions in the red boxes are non-substitution choices:

- *Delaying Purchase*: the item will be bought in the same store on the next shopping occasion;
- *Planning a Special Trip*: a special visit to the store is planned to buy the missed item);
- *Switching Store*: the item will be bought in another shop at the time OOS is experienced; the new store could belong or not to the chain where the OOS was first felt, in the first case there will be no profits losses.

The first two actions are across the “Same Store” and “Different Store” sections, because there is an opportunity that the customer could change shop.

The “substitute” action, in the blue box, leads to a further level.

Factors and costs

Deferring the purchase (which comprehends both delaying and planning a special trip) increases opportunity costs, this owing to the deferring of the consumption. More precisely: among the two, planning a special trip creates the lowest costs level, since delaying purchase means to wait a longer time before using the goods. At the same time buying in the next shopping trip has no transaction costs, opposed to planning a special trip, which needs more labor.

A non-substitution choice, such as a store switching, does not have opportunity or substitution cost, but has high transaction costs.

The decision to substitute the good requires further efforts in defining the best item to take place of the missing one: this is the third level in the process and it is lead by the goal of minimizing the loss of utility caused by OOS.

<i>Action taken</i>	<i>Factor affecting</i>	<i>Type of factor</i>	<i>Kind of cost</i>	<i>Cost effect</i>	<i>Correlation with action</i>
Deferring purchase	Urgency of need (or it push <i>special trip</i> decision)	Product Consumer	O	+	- (<i>special trip</i> +)
	Mobility	Consumer	T	-	+
	Distance “person”-store (short)	Consumer Store	T	-	+
	Shopping attitude	Consumer	T	-	+ (<i>special trip</i>)
	High shopping frequency	Consumer	T	-	+
	Individual perception of time value (high cost)	Consumer Situational Store	T	+	+ (<i>delay</i>)
Switching store	Individual perception of time value (high cost)	Consumer Situational Store	T	+	-
	Acceptable alternative stores available	Situational Store	S	-	+
	Specific Store loyalty	Consumer Store	S	+	-
	Private label buyer (<i>it pushes switching to a store of the same chain</i>)	Consumer Store	S	+	-
	Brand Loyalty (National Brand)	Consumer Product	S	-	+
	Price level perception (as low)	Consumer Store	S	+	-
	Distance between stores	Situational Store	T	+	-
	Mobility	Consumer	T	-	+
Substitute (vs Non substitute)	Availability of alternatives	Product Store Situational	S	-	+
	Loyalty to the item in OOS	Consumer Product	S	+	-
	Perceived risk of substitution	Product Consumer	S, T	+	-
	Deal-prone consumer	Consumer Product	T	-	+

3.4 SKU level

Responses

Lets consider the choice of the good's category, brand and size.

- a. **Category choice**; driven by the focus criterion¹ the customer will change category only if he does not find an acceptable substitute inside the starting group; if such a change takes place, the new item cannot be compared to the OOS for what concerns brand, variety and size.
- b. **Brand, variety and size**; these choices have to be taken when the substitution happens inside the same ware's category; more precisely, brand and variety can be the same or different, whereas the size could be the same, smaller or larger. As a new good is chosen the customer has to evaluate the variation in the total expense, which could determine an expense that is higher, lower or similar than the one he would have encountered in case there was no OOS. All through this flow, the customer pays attention to the focus criterion. An example: lets suppose a consumers desires a chocolate (variety) ice cream (category) branded Häagen Dasz (brand) in the 100g size. If the consumer's real need/desire is chocolate, then when he faces the OOS he could just buy chocolate bars, switching category; but if what he wants is ice cream, then he will stay in the same category and moves among the various brands, varieties and packets sizes.

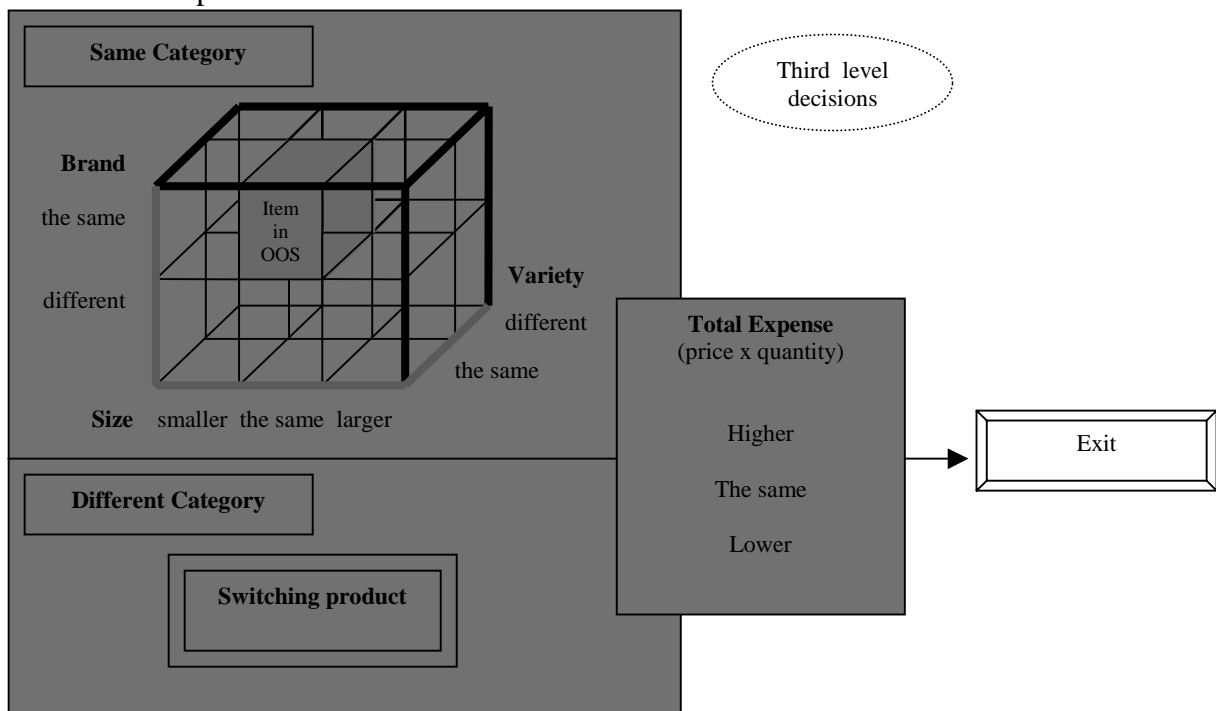


Fig.3

Factors and costs

At this level the main factors are the focus criterion and the new total expense.

Focus Criterion: the consumer perceives SKU features as organized in a hierarchy, which is led by the feature most important to him/her; the consumer acts according to that very feature, which he/she is focusing on and is not going to forget: this is what we call *Focus Criterion*. A change in the focused feature would cause infinite costs (because the need would be unsatisfied), so

¹ A person's choices are consistent with his/her *focused* needs, which in our case, can be reduced to the groups of categories, brands, varieties and sizes.

the customer is driven by the goal of minimizing disutility (and not maximizing utility). Advertising and brand communication try to establish some brand as the customer's focus, and (according to *no-global* activist writer *Naomi Klein, 2000*) confusing the very customer about the product's real qualities. Anyway, an expressed brand preference will not necessarily be the focused feature, since this one varies according to the item's and the consumer's particular qualities (if variety is in focus, brand loyalty fades).

Total Expense: price and quantity. Total expense is a particularly important driver in a model that, like ours, is based on a costs-approach. A higher expense augments substitution costs, whereas lower costs can counterbalance the loss of utility caused by the very OOS.

Since price is a given data, we can assume that the customer calculates the quantity suitable with his/her budget and/or planned expense. When quantity is also a given data (because a minimum quantity has to be bought), the consumer will consider those goods with lower prices (*Walter and Grabner 1975*). In any case the attitudes are to buy less - in order to avoid as much as possible the risk of non-satisfaction caused by the switching - and to keep a low total expense (*Campo et al., in progress*).

Some other implications have effects on the costs issue; if the OOS was promoted the consumer cannot get the extra value offered by the low prices, thus his/her substitution costs gets higher (*Campo et al. 2000*), moreover he/she will be surprised or upset because of the inconsistency of the retailer that promotes a good that is not available (*Zinn and Liu 2001*).

3.5 Taxonomy of consumer responses to OOS

The tree presented in figure 4 (see next page) is a tool that summarizes the decision-taking model and the consumer's reactions taxonomy. It is self evident that this instrument has to be adapted to some variable specifics (consumer's, product's, situation's, etc), e.: the model will be much more simple in case the good is produced in just one variety.

3.6 Integrating the decision-making process model with factors

The model in figure 5 is a graphic summary of all the considerations. Some note about graphical expedients: factors influence is shown by colors, pink stands for direct, green for indirect; the numbers are used to facilitate the explanation contained in appendix; continue lines indicate the main flow, discontinue lines stand for the backward flow.

Preliminary notes:

- the process is fuelled by the perception of an OOS;
- the whole process will take place in a short time, inside the consumer's cognitive structures;
- nor contemporaneous multiple OOS neither effects of past OOS have been considered;
- all the factors are interdependent and interactive;
- backward decision responsible for the end of the process could occur at any time;
- the consumer's rationality is *bounded* (Simon 1955).

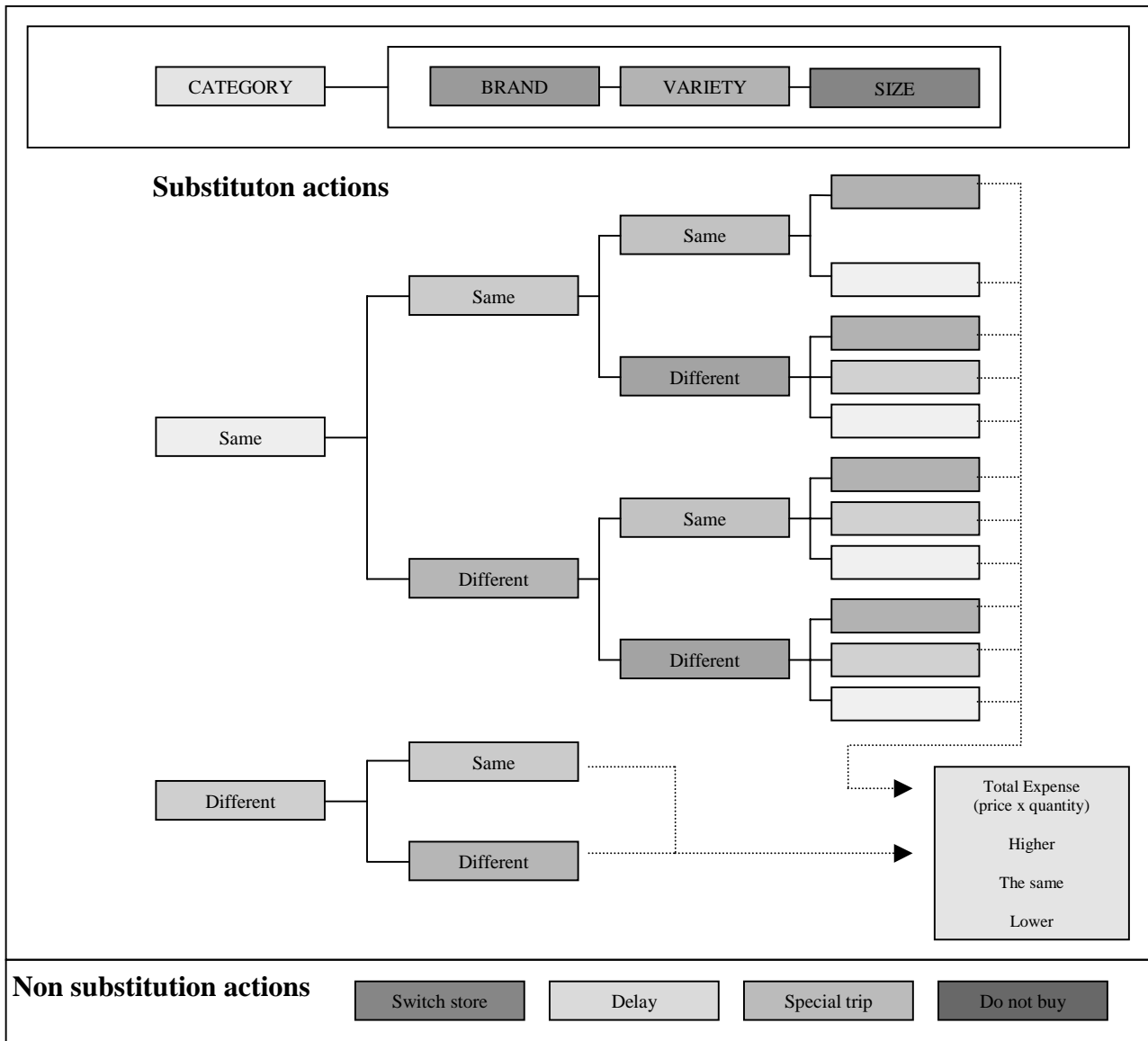
Comments to the model

Being analytical considerations exposed in appendix, this is not but a collection of the main dynamics.

The flow takes place very quickly, but it is anyhow affected by a multiplicity of factors, intervening at any level. Those drivers are heterogeneous and if all of them are in some way related

to the store, only some of them are useful to encounters the customers needs and desires. A retailer can so use the model to fine tune with its target.

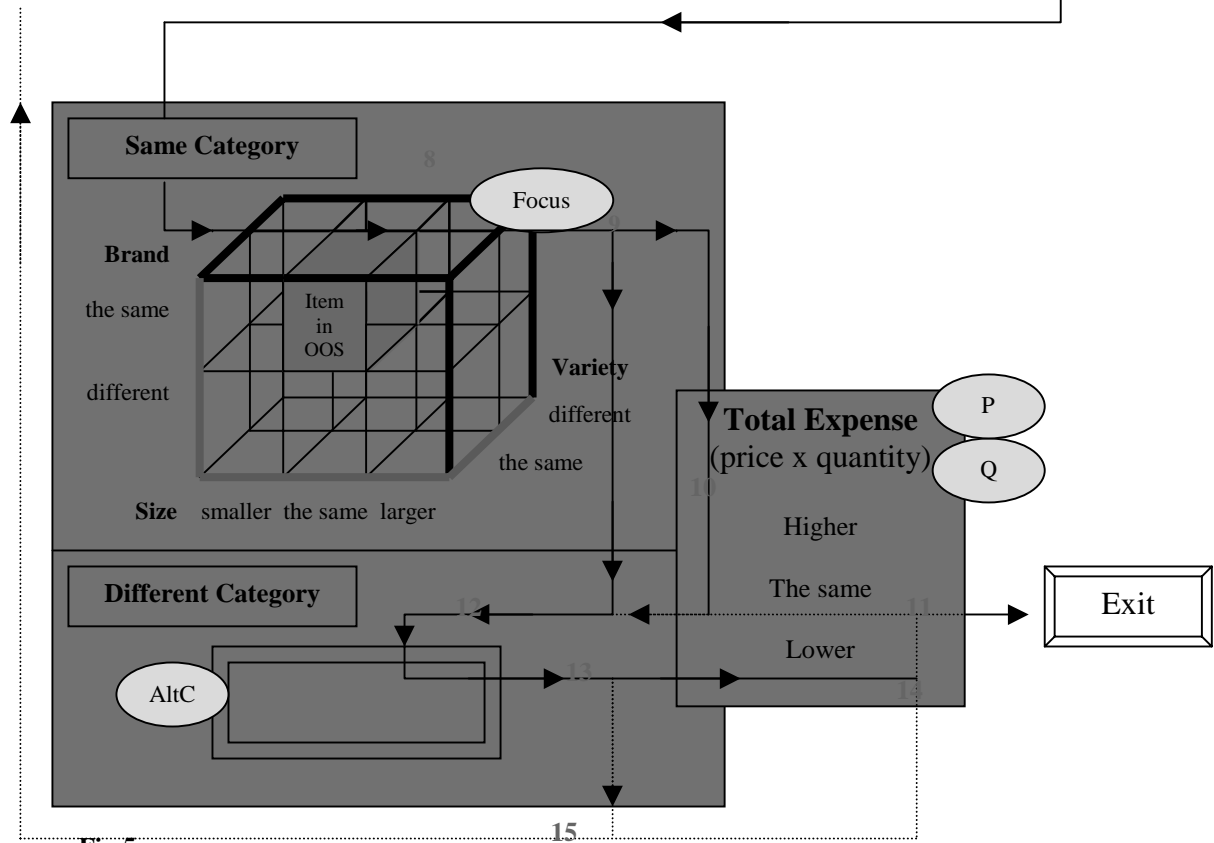
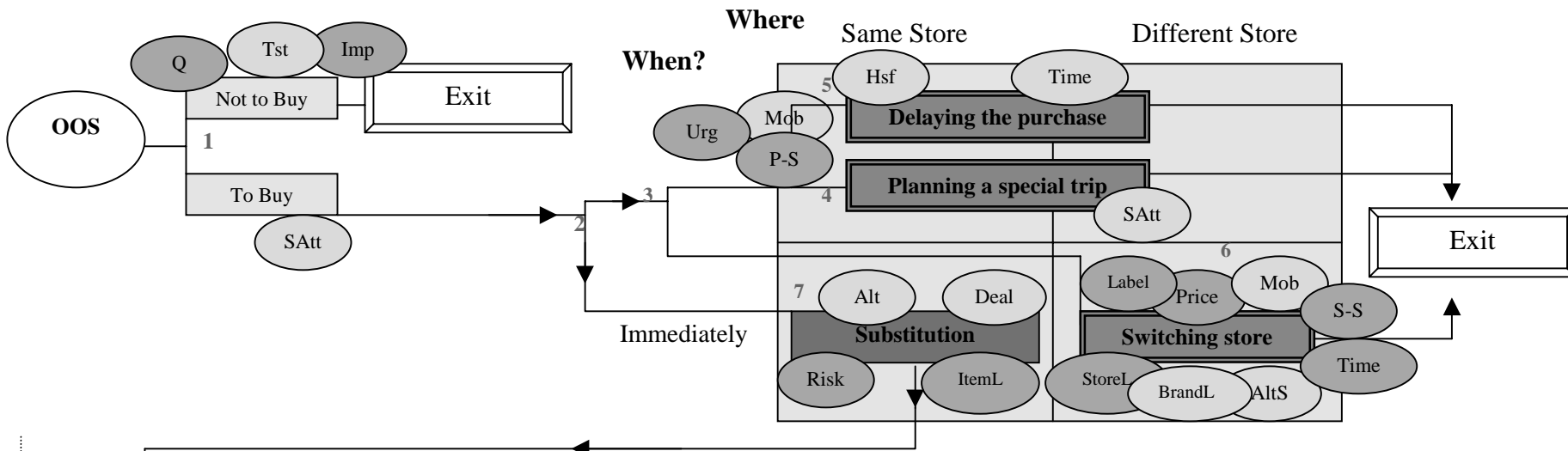
Fig. 4 - Taxonomy of consumer responses



4. CONCLUSION

4.1 Implications for the retailer

The present paper is meant to be a starting point to help retailers in defining better strategies and tactics to reduce the harmful implications of OOS. According to our analysis, this phenomenon effects are classifiable as *negative*, *potentially negative* and *non-negative* and are easily traceable in the short run. In a brief time period OOS consequences are connected with category sales and turnover; decisions like not to buy (which includes store substitution) and to switch to less costly goods have negative results for the retailer's outcome. Decisions like delaying purchase or planning a special trip are only potentially negative, since the consumer can decide whether to visit the usual shop or another. Anyway, considering the eroding power that time exercise on money, it is better for the retailer to get money earlier than later. Finally, and obviously, a substitution action towards more expensive goods (or with the same costs) will not have any negative consequences.



Code	Factor affecting
Alt	Availability of alternatives
AltC	Acceptable alternative category
AltS	Acceptable alternative stores available
BrandL	Brand Loyalty (National Brand)
Deal	Deal-prone consumer
Focus	Focus Criteria (neglecting)
Hsf	High shopping frequency
Imp	Importance of the item
ItemL	Loyalty to the item in OOS
Label	Private label buyer
Mob	Mobility
P	Price
Price	Price level perception (as low)
P-S	Distance "person"-store
Q	Required purchase quantity
Risk	Perceived risk of substitution
SAtt	Shopping attitude (good)
StoreL	Specific Store loyalty
S-S	Distance between stores
Time	Individual perception of time value (high cost)
Tst	Type of shopping trip (major vs. minor)
Urg	Urgency of the need

Fig.5

Considerations about future implications cannot be drawn: the model is not reliable for a long time period. As a matter of fact, OOS are likely to produce a decision taking process not only *in-store*, but also *out* and *before* visiting the store (Kotler and Scott, 1993), especially if the shop usually has a high percentage of OOS. Other psychological factors intervene: consumers' cognitions and attitudes are not given and stable (Fabris 1995), but they change under the effect of the learning processes (in the *psychological* meaning of the term). The *balance theory* (Heider 1946, Alessio 1990) and the *cognitive dissonance* (Festinger 1957) are useful to understand why events as OOSs, are big threats for the retailers.

Avoiding OOS is a major issue for retailers, which will have to work in a *coopetition* environment (Bengtsson and Kock 2000); *coopetition* is a situation where the actors both *compete* and *cooperate* with the other players, so that the best solution for the problem can be found.

What distributors have to do is to know in depth their customers, this meaning that they can adapt the store's specifics to the targets necessities.

Lowering the perceived OOS ratio is a good way to avoid the decision-taking process we discussed in this paper; actual OOSs still have effects, because impulsive purchases decrease because of the very absence of the item, but at least the retailer can decide to which category concentrate the perception of OOS.

As Simon and Fitzsimons (1999) pointed out customer having experienced an OOS expressed lower satisfaction scores than the consumer not having perceived the absence of a good; the same authors found that if consumers were told of OOS before entering the shops, the satisfaction score increases, but this is a dangerous strategy, since it could suggest to switch shop even before entering one (moreover it is pretty impossible to implementate it). Keeping shelves full (this meaning that they should not show empty spaces) could be a good way to diminish the perception of wares' unavailability.

When the OOS is felt and the consumer keeps its intention to buy, then the retailer must offer him a valuable range of substitutes; influencing factors are accurate category management (Emmelhainz and Emmelhainz 1991); store format, time value and proximity (Pellegrini 2002); store loyalty through a private label policy (Corstjens and Corstjens 1995).

4.2 Suggestions for further researches

The model presented is not but a first step towards a better comprehension of OOS phenomenon, which should be object of a multidisciplinary study; moreover the exposed considerations are only theoretical since they have not been verified on field: such an activity would be time consuming and very expensive (lets just consider the costs and the effects of producing systematical OOS in a real shop, in order to better study the fact).

We suggest future researches should try to better investigate the consumer's cognitive system (and their focus criterion, so that a better assortment can be built) and his/her needs, in order to mix the right attributes to create an efficient retailing formula.

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Attachment 1

AUTHORS/YEAR/COUNTRY		Progressive Grocer (1968)	Walter, Grobner (1975) USA	Schary, Chrystopher (1979) England	Emmelhainz (1991)	Campo (2000) Belgium		Corsten (2002)
<i>CONSUMER RESPONSE</i>								
SUBSTITUTE	Same brand Same category	47,8%	19,3%	4,8%	41,4%	-	15,0%	19,0%
	Other brand Same category		64,1%	5,0%	31,5%	44,0%	51,0%	
	Other brand Other category		-	12,4%	0,5%			
DO NOT SUBSTITUTE	Switch store	28,2%	14,1%	47,9%	13,7%	3,3%	2,0%	31,0%
	Drop purchase		-	18,7%		3,7%	2,0%	9,0%
	Delay purchase	24,0%	2,5%	11,1%	13,1%	49,0%	30,0%	15,0%
<i>RESEARCH SPECIFICATIONS</i>								
1	Methodology		- multiple-choice questionnaire - self-response	- questionnaire based interview after check-out	- questionnaire based interview before check-out	- questionnaire based interview		- Desk study based on input of 51 different studies
2	Store format		Specialty store	2 suburban stores of a London supermarket chain	1 discount grocery store	1 store of a large supermarket chain		
3	Category		Liquor	Branded groceries	- ground coffee - orange juice - toothpaste - peanut butter - tomato sauce	breakfast cereals	margarine	- feminine hygiene - diapers - toothpaste - shampoo/hair care - laundry - toilet tissue - salted snack - paper towels
4	Sampling size		14,820 asked, 1,443 replied	1167 customers	2,858 interviewed 2,810 responses	449 questionnaires	544 questionnaires	
5	Experienced OOS			- 343 (29,9%) customers experienced at least one OOS - in AVG 1,27 OOS experienced per respondent	- 375 experienced OOS (13,35%)	No actual OOS was observed		
6	Timing			2 weekends (peek of OOS), autumn	4 days, summer			
7	OOS modeled		hypothetical OOS	didn't remove items	5 bestseller-SKUs removed	hypothetical OOS		

Attachment 2

Here we report, per each *decision level*, a glossary with a speculation for each factor and its effect on consumer responses.

First level decisions

Importance of the item: it is related to the number of units household generally keeps in stock. We could see that in case of OOS consumer is more inclined to *not drop the purchase* if he needs the item to refill his stock at home. On the contrary it would lead to *opportunity costs* (due to under-consumption).

Required purchase quantity: the more the amount he intends to buy the higher is the probability that he will drop the purchase. Also this factor drives *opportunity costs* related to possible under-consumption.

Type of shopping trip: first, we should clarify that the *major shopping trip* is undertaken to replenish the household inventory of a large number of products, while minor one is made to purchase a smaller number of urgently needed products (*Campo et al. 2000*). Therefore, in case of dropping the purchase, the *opportunity cost* will be lower if the consumer is on a major shopping trip (vs. minor when the need is urgent).

Shopping attitude: if the consumer perceives shopping as a pleasure vs. necessity, he would be likely *not to drop* the purchase as he does not perceive high *transaction* (and *substitution*) *costs* in comparison with the *opportunity* ones.

Eventually, we could see that the *urgency of the need* (*Emmelhainz et al. 1991*) and the degree of its specific are implied by most of the listed factors here. Therefore we could conclude that they are the main driving forces in the first level of OOS decision-making.

Second level decisions

Not to Substitute: Deferring Purchase

We found, by the *cross research-analysis*, that the factors pushing these decisions are:

Urgency of the need: the more urgent the need is the higher would be the *opportunity cost of delaying*. It could happen that, even if the need is urgent, consumer *costs trade off* will make him to decide to *delay* as well. In this case the *urgency* might drive a *special trip* decision in order to reduce *opportunity cost*. This factor is *product specific*, but can also vary according to *consumers*.

Mobility: it is given by means of transportation used to reach the stores.

Even if its main effect is on *switching store*, it could reinforce a *deferring decision* as it makes *transaction costs* lower.

In case a *deferring purchase high mobility* can favorite a *special trip*, instead of a *delaying to next occasion*. This factor has to be considered as consumer specific.

Distance person-store: it is the physical distance the person generally has to cover to reach the shop (on the *next* or on the *special occasion*). Consumer's perception of this distance is strictly interrelated with his *mobility*. Long distance causes higher *transaction costs*, in particular discouraging the decision of a *special trip*. This distance, which some authors (*Pellegrini 2000*) defined as *proximity*, is store and consumer specific.

Individual perception of time value: if the value of the time (according to the individual consumer) is high, a consumer might consider *substituting* or *switching store* inconvenient. Thus, he will be likely to *delay* the purchase (without considering a *special trip*). A store that has longer opening hours gives the consumer an opportunity of shopping in a less "costly" time. This factor is given by consumer specifics and can be also connected to situation specific.

Shopping attitude: as favoring at the first level the decision of *do not drop* the purchase, it can also make the consumer “happy” with another *shopping occasion* as a *special trip* is.

Shopping frequency: this factor expresses how many times in a given period (generally a week) a consumer visits the store for his shopping. Both the *major trip* (in order to fulfill basic household stock needs) and the *minor trip* (due to special needs or to smaller stock refill) are counted to calculate this indicator. If a consumer is a *frequent shopper* he would be more likely to *defer* (and probably to *delay* till the next regular occasion) because it will not be a long time until the next shopping occasion (lower opportunity costs due to less hours/days of *non consumption*). This factor is consumer specific.

Not to Substitute: Switching Store

In order not to incur *opportunity* and *substitution costs* (getting the exact SKU at the present time) a consumer might decide to *switch store*. Factors affecting this decision are:

Individual perception of time value (high cost): consumer might dislike *switching store* because of his *high time value*, which increases *substitution costs* dramatically. (Please, see the explanation in the paragraph above)

Acceptable alternative stores available: here we mean an existence of other stores providing adequate product substitutes. In this case consumer will evaluate alternatives and if the reduction in substitution costs outweighs the increase in transaction costs encountered when relocating, he might decide to switch to the most acceptable alternative store.

Specific Store loyalty: it is the extent to which the consumer devotes himself to one particular store: if a consumer finds himself loyal to a specific store, he will find it more “costly” to switch to another one because of the perceived risk encountered when substituting a well-known store with an unknown alternative.

Private label buyer: a consumer loyal to brands owned by and available at a specific store or chain of stores only. That means that the consumer is loyal to brands sold only in one particular store or a chain of stores, i.e. brands that are owned by this store or the chain. In case of an OOS of a private label the consumer will least probably switch to another store belonging to a different chain. This indirectly pushes him to a *deferring decision*. Only in case another store of the same chain is available in the nearby location (and if he is aware of it), the consumer might decide to shift to it.

Brand Loyalty (National Brand): a national brand loyal consumer, opposed to a private brand loyal consumer, has an alternative of switching store in order to acquire the necessary product in OOS. Thus, the substitution costs are avoided.

Price level perception (as low): a rather significant factor driving consumer decision-making regarding store switching is the one of the perceived price level of the store in question. If consumer attaches high value to the price factor, switching to a more costly store would heighten substitution costs, and therefore the consumer is rather unlikely to perform this action.

Distance between stores + Mobility: with *distance between store* we mean the physical space between the specific store and an acceptable alternative store. It is necessary to mention that this factor usually works together with the consumer *mobility* factor. The more mobile the consumer is, the less is the perceived distance between stores in the dimension of time. However, considered separately, an increased distance between stores result in increased transaction costs and thus in a lower likelihood of consumer switching the store.

To substitute

As shown by the model in the previous part, *substitution decisions* lead actions made in the *same shopping occasion* and in the *same store*.

This kind of decision is based mainly one *complex factor*, *availability of acceptable alternatives* (Campo et al. 2000), which is itself influenced by more simple factors.

Availability of acceptable alternatives means that consumer considers suitable one (ore more) of the alternative SKUs (category, brand, variety and size) present in the store. Therefore, the utility

loss (substitution cost), due to switch to a less preferred item, is lower. It is clear that it is *product specific* (if the product has or not, for its nature a considerable number of substitutes: are there other suitable categories in satisfying the need/desire? are there many brands/SKUs in the same category?). It is also *store specific* (how broad is the store assortment for that category/brand?), *situation specific* (which is the level of the assortment at the moment in the store?) and *consumer specific* (what makes the consumer perceive an alternative as acceptable).

We discuss the sub factors as follows:

Availability of alternatives: the presence of a certain amount of item that a consumer might find suitable to substitute the missing item: the wider the assortment of those items is, the higher the probability that a consumer will find something he could be likely to switch to is.

Perceived risk of substitution: for specific product and/or according to certain consumers, the decision of *substituting* might cause *substitution* and *transaction costs* due to the uncertainty about post-purchase satisfaction. *Dissatisfaction* (or worse regrets) depends on monetary, psychological and social factors. A consumer who perceives high *risk in substituting* will hardly find acceptable alternatives.

Loyalty to the item in OOS: on the contrary to many authors who considered *brand loyalty* affecting this kind of decision, we found that it should be considered in a more specific way. The *loyalty* can be expressed not only in terms of brand, but also (and sometimes mainly) in terms of another SKU feature (as category, size or variety). Therefore, we state that it is not brand loyalty that drives the decision *not to substitute*, but the loyalty to the specific SKU in OOS. In fact, brand loyalty could be maintained even if a *substitution decision* is taken (a consumer can *switch within brand*). Only if the SKU feature/s which is/are the main matter of the loyalty to the SKU cannot be found in any other SKU, the consumer will not be likely to substitute, otherwise he would carry extremely high *substitution* and *transaction costs*.

The loyalty to one or more SKU feature/s is interrelated with the *perceived risk of substitution* as high loyalty increases the perceived risk and as *high risk* increases trust toward the SKU (or the specific feature/s).

Deal-prone consumer: a consumer, who is used to comparing items, develops his awareness about alternative SKU solutions. Therefore, he might *substitute* easier because of his lower *transaction cost* (mainly *searching* ones). This factor is consumer and product specific.

Third level decisions

Factors working at this level are discussed in the paper.

Attachment 3

Description of the figure 5

After a consumer realizes he is in front of an OOS he evaluates the magnitude and consequences of *opportunity costs* of *dropping purchase* [see number 1 in the figure]. These costs are mainly increased by the necessity of buying a *certain amount of product* (Q) and by the *importance of the item* in satisfying a need/desire (Imp), while being in *major shopping trip* (Tst) makes these costs lower.

A positive *shopping attitude* (Satt) indirectly discourages a dropping decision as it makes pleasant the idea of *shopping*, as it decreases the effect of other factors leading *substitution* and *transaction costs*.

A decision *to buy* leads to a further level. Consumer has now to decide for *substituting* or *not* [2].

Not substituting decisions [3] can be taken by *deferring the purchase* [4, 5] or by *switching store* [6]. *Urgency of the need* (Urg - as subfactor of *importance of the item*) and *distance person-store* (P-S) make the consumer more likely *not to postpone* (and so they indirectly lead to *substitution actions* or to *switching the store*). On the contrary, *mobility* (Mob) favors *deferring* or *switching the store* (but we cannot say it has a negative effect on the decision to *substitute*).

Within the decision of *deferring* a consumer is more likely to wait for the next shopping occasion [5] if he *purchases frequently* (Hsf) and/or his *time value* (Time) is high. A certain *urgency of the need* would favor, together with a *positive shopping attitude* (SAtt), the decision of a *special trip* [4].

A decision of *switching store* [6] is made more likely by an high rate of *mobility* (Mob), *loyalty toward national brand* (BrandL) and the presence of *acceptable alternative stores* in the location nearby (AltS). On the other hand, *private label loyalty* (Label), store perceived as *good price for value* (Price), *specific store loyalty* (StoreL), *distance between store* and *high value time*. (Time) make this action less likely. If a decision of changing store is taken, loyalty toward the *store chain* and its *private labels* would drive the decision of switching to a store of the same chain.

At this level, the most important consideration regards the *availability of acceptable alternative items*. If a consumer finds something suitable to switch to (within or between category, brand, variety and size) he will take a *substitution decision* [7]. The acceptability of the alternative is given by the comparison between the costs aroused by changing SKU vs. the costs, given by *not to substitute*, seen above.

Factors pushing the decision of *substituting* [7] are *alternative available in the store* (Alt) and *deal-prone consumer* (Deal), while *perceived risk in switching product* (Risk) and *item loyalty* (ItemL) decrease the grade of acceptability of the alternatives.

Substitution decision leads to further considerations concerning the *SKU features* and the *total expense* evaluations (third level). First, consumer evaluates options *within the category* [8], led by the *focus criteria* (Focus) [9]. If he finds acceptable alternatives (at least one) he considers the *total expense* suitability of each alternative [10], given by *price* (P) and *quantity* (Q). In case he is satisfied, he purchases the product [11]; on the contrary he would evaluate the opportunity of switching to a different category [12]. *Switching product* [12] would have been also considered if before [9] he wouldn't have found anything suitable in the category. The presence of *acceptable alternative categories* (AltC) [13] would lead to further consideration on *total expense* [14], on the contrary consumer would be likely to reconsider previous steps of his process [15]. The same would also happen if *total expense* [14] is considered not suitable.