

INNOVATION MANAGEMENT, MARKET ORIENTATION AND  
PERFORMANCE IN THE CONSUMER SERVICE SECTOR :  
AN EMPIRICAL RESEARCH

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Abstract

The purpose of this study is to look at the management of innovation in consumer service firms and more precisely to define the possible relationships between the degree of refinement in innovation process, the marketing competence of the organization and the financial performance of a new service.

Following a presentation of various concepts, an empirical study will complete the investigation of research hypotheses. In a sample of 52 French organizations taken from four major service industries, a non-parametric analysis of results shows that the analytical marketing reflection of the firm has to be encouraged at the expense of its operational setting and that the refinement level of the development process has a positive impact on the performance of new consumer service activities.

Review of publications

The objective of this study is to partly fill a gap by presenting an empirical analysis of the possible relationships between the marketing competence of the organization, the degree of refinement in innovation process management and the financial performance of new service activities. This analysis is relatively innovative since, as far as we know, there has been no previous study about relations between financial performances and innovation policies in the service sector. Indeed, research has mainly concentrated on qualitative criteria, above all the quality of service (Zeithaml et al. 1988, Brown et al. 1990, Gronroos 1990).

Conceptual structure

A conceptual structure of innovation management in consumer service firms is necessary for the sample study. Let us recall some essential points :

- traditional methods of innovation management are sufficiently comprehensive and general so as to be applied to service activities (Wind 1982, Lovelock 1984, Meyers 1984, Urban et al. 1987) ;
- observed differences between industrial development processes and consumer service activities development are mainly due to structural reasons more than to managerial causes : corporation practices and marketing concerns in the service sector are indeed less developed than in the industrial sector (George and Barksdale 1974, Donnelly et al. 1985, Zeithaml et al. 1985, Langeard and Eiglier 1990) ;
- when marketing competences are present in the firm, the level of the service development process is better than in the case of weaker abilities (Shostack 1984, Martin and Horne 1990) ;
- observed performance in the issuing of new consumer services are a function of the degree of refinement in innovation development process (Belleflamme et al. 1986, Langeard et al. 1986, Jallat 1992).

Definition and operationalization of variables

The key dimension of this study, the degree of refinement in innovation process management, will be measured using two criteria which allow us to organize our hypotheses :

- V1 : number of steps in the firm's development process among those used by Booz et al. (1981) (idea generation, idea screening, concept testing, commercial evaluation, service conception, service testing, marketing-mix testing, test marketing, commercialization).

As a first approach, this criterion makes intersectorial comparisons simpler and it is easier to measure the associations between variables.

The limitations of this criterion lie in the somewhat artificial formalization of the process and the numerical computation of the processes considered. One must remember, nevertheless, that statistical treatment supports a qualitative analysis previously oriented towards contents and methods (Jallat 1992).

- V2 : effective dissociation between the phase of test operationalization (grouping the four intermediary steps of service conception, service testing, mix testing and test marketing) and that of commercialization taking the last step of the process into account.

This criterion (Langeard et al. 1986) is by nature more qualitative and defined "ex-post", and consequently more complex to measure than the former and is partly left to the researcher's discretion.

The marketing abilities of the firm will be measured along four dimensions :

- V3 : nature and contents of the strategic thinking prior to innovation development,

- V4 : functional integration of marketing in the structure responsible for the new service development,

- V5 : number of persons active in marketing related activities/total manpower of the firm,

- V6 : marketing investments/total turnover.

The firm's marketing competence dissociates the analytical method and the operational setting taking into consideration Lambin's (1986) conclusions on this subject.

The first two elements are designed to measure the strategic orientation and analytical reflection of the firm (strategic marketing). The last indicators are designed to assess the efforts of the firm to bring this global reflection into reality (operational marketing).

The four variables used have been suggested by George and Barksdale (1974) or Zeithaml et al. (1985) on the service sector, their methodology being very close to ours.

The performance of the new service will be measured in the last financial year using financial data collected from the firms themselves or at Commercial Court proceedings. Three indicators are retained :

- V7 : Growth rate of business turnover,

- V8 : Company market share,

- V9 : Net results of the company.

Accuracy of the performance criteria has been presented in existing literature (Woo, Willard 1983, Capon et al. 1990 ...).

Besides, such measures offer the advantage of being collected more easily than some specific sectorial indicators for which it is not possible to disregard the firm studied.

Moreover and taking into account the overall objectives of the hypothesis, general and standardized measures seem to be better adapted to research goals.

On the contrary, those criteria take into consideration neither the competitive environment characteristics nor the degree of market maturity : using them is, in this respect, an "abuse" slightly attenuated by the qualitative analysis that has previously been done.

Table 1 below presents the nature and features of the criteria used to measure the variables under study.

TABLE 1  
NATURE AND FEATURES OF THE MEASUREMENT CRITERIA USED

variable number	name of the variable	level of measurement
(I) REFINEMENT PROCESS DEGREE		
V 1	Number of steps completed by the firm	Interval
V 2	Dissociation of testing and commercialization phases	Nominal
(II) MARKETING COMPETENCES OF THE FIRM		
(1) <u>Strategic Orientation and Analytical Reflection</u>		
V 3	Contents of the preliminary strategic reflection	Interval
V 4	Nature of the functional marketing integration	Ordinal
(2) <u>Operational setting completion</u>		
V 5	Marketing staff/total manpower Ratio	Interval
V 6	Marketing investment/turnover Ratio	Interval
(III) FINANCIAL PERFORMANCE OF THE FIRM		
V 7	Growth rate of business turnover	Interval
V 8	Company market share	Interval
V 9	Net Results of the company	Interval

Research Hypotheses

Starting from the conceptual structure developed and reviewing the publications listed above, we now propose to test the following hypotheses :

The marketing ability of the firm bears positively on the degree of refinement in the service development process.

H1.1 : Whatever the service sector under consideration, the stronger the marketing competence, the greater the number of steps normally completed.

H1.2 : Whatever the service sector under consideration, the phases of test operationalization and commercialization will be more frequently dissociated in the process when marketing competence is strong.

By "dissociation of the phases" we mean estimation of project potential and associated risks at a given moment .

This assessment determines the completion of the process and makes up a "link" between the two phases considered (Langeard et al. 1986).

The process will be considered from a dynamic point of view in order to judge whether the elementary operations as determined for all the steps are chronologically completed (preliminary operations being accomplished before the others are started up).

The degree of refinement in the development process bears positively on new service performance.

H2.1 : Whatever the service sector under consideration, the greater the number of steps completed in the development process, the higher the performance of the new service.

H2.2 : When the phases of test operationalization and commercialization are actually dissociated, the performance of the new service will be higher.

Approach

We undertook causal research by personal interviews, taking data from a sample of 52 French service industries spread over four important activity sectors, as follows :

- "One star" hotels : 15 interviews,
- Speciality restaurants : 12 interviews,
- Retail credit cards : 12 interviews,
- Capital life insurance : 13 interviews.

The people interviewed were either marketing or general managers. A semi-directed interview guide was drawn up and pre-tested with five managers, in order to fully benefit from the advantages of personal interviews (Green and Tull 1974).

Analysis Program

Non-parametric statistical methods were applied to data collected so as to emphasize relevant relationships within the four activity sectors described above : even if these were little used in similar studies (Capon et al. 1990), these methods have proved to be well-adapted to the specificities of the current research.

Since the analyses were carried out on four small samples (fewer than 30 observations per sector), parametric tests necessitate, as a general rule, the observation of certain hypotheses (normal distribution, similarity of variances ...) and even more so where manpower is low. In these cases, hypotheses become extremely difficult and sometimes impossible to check (Conover 1980).

Contrary to the above, non-parametric tests offer the considerable advantage of making no hypothesis on distribution while, in most cases, preserving a capacity which is comparable to that of classic tests. What is more, they can also be applied to nominal and ordinal data.

Bearing in mind the respective nature of the variables in Table 1, two association measures were selected in order to test out the hypotheses :  
1°) Spearman's coefficient of rank correlation,  
2°) U Test of Mann-Whitney.

We used the SPSS system and some remarks have shown themselves indispensable for utilization of the results obtained (Norusis 1988) :

- The program carries out automatically any adjustments made necessary by tied results on exact measures (read in the table) whatever the method used.

- The level of significance supplied by the program is based on a unilateral test for the Spearman coefficient, on a bilateral test for the U test. After transformation, the corresponding confidence threshold is 0.10 whatever the method used.

To conclude, Table 2 shows the analysis program, hypothesis by hypothesis; it takes into account the different levels of measurement of the variables under study. The variable numbers refer to those presented in Table 1.

TABLE 2  
COMPUTER ANALYSIS PLAN OF THE RESEARCH

Hypotheses	Spearman	Mann-Whitney
H1.1 H1.2	V1/V3 to V6	V2/V3 to V6
H2.1 H2.2	V1/V7 to V9	V2/V7 to V9

Quantitative analysis and results of the study

This section turns to the testing of hypotheses and consequently to the links between the relevant variables used in this study.

One must keep in mind that two covarying variables are not necessarily in a causality relation.

With the help of existing literature and with the quantitative analysis we have completed, causality relations will be stated and hypotheses confirmed each time a significance level and a sufficient linkage is reached ( $p < .10$ ).

Using the elements presented in the previous section, the following relationship will be successively analyzed :

- 1°) Level of process making,
- 2°) Dissociation between steps.

The method used to validate the research hypothesis will be specific to each dimension since the measured associations and the significance levels are particular to the different sectors studied.

Taking into account the research objectives, the generalization of the tested hypotheses in all the activities of consumer related services will probably be possible for only some dimensions.

The synthesis of non-parametric tests in four representative sectors will make this generalization possible, given the qualitative analysis previously completed (Jallat 1992).

Level of process refinement

Two hypotheses of the research are to be presented and tested. This will be followed by the results themselves.

H1.1 : Whatever the service sector under consideration, the stronger the marketing abilities of the firm, the greater the number of steps.

In Table 3, the Spearman rank coefficient correlation and the significance level (Sign.) of the admitted associations are presented for all sectors.

TABLE 3  
MARKETING ABILITIES/NUMBER OF STEPS ASSOCIATION

	Hotel	Restaurant	Commere	Insurance
	Nber of steps	Nber of steps	Nber of steps	Nber of steps
Stra. refl. (Sign.)	.812 .000	.725 .004	.887 .000	.848 .000
Mkt. Integr (Sign.)	.827 .000	.739 .003	.450 .071	.707 .003
Mkt. Eff. (Sign.)	.703 .002	.107 .370	.408 .094	.625 .011
Mkt. Inv. (Sign.)	.623 .007	.380 .112	.674 .008	.405 .085

The link between the contents of the strategic reflection previously led inside the firm and the number of steps in the process is largely confirmed for all sectors : the significance levels obtained are particularly demonstrative ( $p < .001$ , restaurants excluded). Similarly, the link between the marketing integration in the management of the project or task force responsible for innovation process and the number of steps in the process is also confirmed. One can state that the strategic orientation and the analytical reflection have a favourable impact on the refinement process in the new service customer-related activities.

Concerning the criteria of operational setting, conclusions are more difficult to draw : the link between marketing staff and the number of the process steps is confirmed with the exception of speciality restaurants.

In the restaurant business, a very good example of a fragmented sector, the firms often only have one person responsible for marketing, whatever the size of the staff.

Similarly, marketing expenses are minimal ; they are, roughly, a fixed minimal amount unrelated to the turnover of the firm. Considering the nature of the sector, these indicators give a poor idea of the operational marketing orientation in the organization under study.

Finally and for the same reasons, the relation between a given proportion of the firm's marketing investments and the number of process steps is rejected only in the restaurant trade.

In conclusion, if we take into consideration the variations between different sectors, intra-sectorial features are more determining than a generalization to all consumer services activities as a whole.

Generally speaking, the operational setting is correlated in a less significant way to the refinement degree in the process development.

H2.1 : Whatever the sector under consideration, the more steps usually included in the development process, the greater the new sector's performance.

In Table 4 the Spearman's coefficients and the levels obtained are presented.

TABLE 4  
LINK BETWEEN NIMBER OF STEPS /NEW SERVICE PERFORMANCE

	Hotel	Restaurant	Commerce	Insurance
	Nber of steps	Nber of steps	Nber of steps	Nber of steps
Growth (Sign.)	.772 .000	.707 .005	.879 .000	-.177 .281
Market share (Sign.)	.862 .000	.493 .052	.738 .003	.838 .000
Results (Sign.)	.708 .002	.647 .012	.840 .000	.824 .000

The association between the number of steps and the firm's turnover growth rate is largely confirmed, except for the insurance sector.

The capitalization life insurance sector, which has come to maturity, has grown more significantly by transfer than by creation of net savings. Market shares of that "extended" market have been purchased either by new participants or by existing competitors.

Consequently, the basic year does not put this criterion forward since the leaders, already with a largely dominating position, have more difficulties today to double an important turnover whereas the challengers with a more limited size can register a higher growth rate.

This statement does not apply to the other three sectors, the activities being effectively more recent than the capitalization life insurance sector.

Concerning the association between the number of steps in the process and the market share, this is stated throughout.

Finally, the link between the number of steps in the process and the net results of the firm is significant for all sectors : Eiglier and Langeard (1987) or Jallat and Lacoste (1991) have underlined the accuracy of the criterion compared to others when measuring the performance of consumer service firms.

One can assert generally that the degree of refinement in the development process bears positively on the performance of a new consumer service activity.

#### Dissociation between steps

Taking into account their dichotomic nominal nature, statistical tests will be modified although bound by the same hypotheses as the number of process steps. The hypotheses are presented again before the results.

H1.2 : Whatever the service sector under consideration, the phases of test operationalization and commercialization will be more frequently dissociated in the process when the marketing abilities of the firm are strong.

For every association measure, the table below presents the Mann Whitney U coefficient and its associated significance level.

TABLE 5  
ASSOCIATION MARKTING COMPETENCE/DISSOCIATION OF THE PHASES OF TEST AND COMMERCIALISATION

	Hotel	Restaurant	Commerce	Insurance
	Dissociation	Dissociation	Dissociation	Dissociation
Stra.Réfl. (Sign.)	4.0 .002	0.0 .001	1.0 .003	4.5 .006
Mkt. Intégr. (Sign.)	8.5 .007	8.5 .042	8.5 .056	8.0 .021
Mkt. Eff. (Sign.)	8.0 .010	17.5 .468	8.0 .061	4.0 .007
Mkt. Inv. (Sign.)	24.0 .321	10.0 .098	4.0 .014	11.0 .075

Sector by sector and criterion by criterion, the conclusions of these tests are, absolutely identical to those of the first hypothesis and allow an refinement in the survey : generally, the strategic orientation and the analytic steps of the firm have a favorable impact on the elaboration level of the development process in its global organization and its internal construction as well.

On the contrary and more significantly than before, operational intra-sector features are more important than the hypothesis generalization to the entire "service" sector.

In particular, the significance level of the association measurement between the amount of marketing investment made in the hotel business and the effective dissociation of the steps in the process does not allow any confirmation of the hypotheses.

Generally speaking, the efforts of operational setting of the firm have no impact on the dissociation of test and commercialization.

H2.2 : When the test operationalization and commercialization phases are effectively separated, new service performance is upgraded.

A statistic Mann-Whitney test, similar to the previous one, has been conducted concerning the association measures below.

TABLE 6  
ASSOCIATION DISTINCTION BETWEEN TEST AND COMMERCIALISATION PHASES/PERFORMANCE OF THE NEW SERVICE

	Hotel	Restaurant	Commerce	Insurance
	Dissociation	Dissociation	Dissociation	Dissociation
Growth (Sign.)	7.0 .007	13.0 .212	2.0 .006	15.0 .196
Mkt. Share (Sign.)	10.0 .018	6.0 .028	2.0 .006	0.0 .001
Results (Sign.)	14.0 .052	14.0 .261	1.0 .004	2.0 .003

The association between the number of steps and the turnover growth rate is confirmed for the hotel and the retail credit cards sectors.

The comments made about the insurance sector can be applied to this part of the survey.

In the restaurant sector, one can question the validity of the data obtained or the relevance of an ex-post formalization in a field where an "entrepreneurial approach to innovation" dominates : the association between the selected items is confirmed only for the market share.

As for the association between phases and market share, it is confirmed in all sectors.

Finally, the association between the same dimension and the net results of the firm is significant for hotel, distribution and insurance sectors.

One can conclude that the dissociation between the phases of test and commercialization in the process is not always a criterion of efficiency and performance for new consumer service activities.

#### Conclusion

This research emphasizes a certain number of important elements :

The firm's strategic orientation and analytical reflection have a positive impact not only on the level of refinement in the global organization of the process but also on the dissociation between its component phases.

This degree of refinement in the process also has a positive impact on performance of new consumer service activities but the dissociation between test and commercialization does not always constitute an efficiency and performance index for new products.

The operational setting is correlated in a less significant way with the degree of refinement in the process and, generally speaking, the efforts of the firm have no impact on the dissociation between the test and commercialization phases in the process.

Of course, this research would merit extension to other service sectors, if only to convince practitioners that analytical marketing reflection and higher refinement of development process have to be encouraged.

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