

INNOVATION, MARKETING INFORMATION SHARING AND NEW PRODUCT SUCCESS IN THE EUROPEAN INSURANCE SECTOR

M^a José Álvarez*, Nora Lado* and M^a Luisa Villanueva**

Abstract

Most companies the world over are actively participating in the race of investments in the service industry. The main question to solve is what new products and services should offer these companies to remain profitable. Available frameworks aiming at aiding the managerial decision-making process, -as it regards to new products and services design and development, are largely based upon empirical data proceeding from the manufacturing sector. Given that services are different from goods, the expansion of insurance services may require some peculiar approaches.

Morgan et al. (1995,99) say that the turbulent environment of the eighties, "*created the pre-conditions necessary for the consumer direct insurance industry to become a laboratory of experimentation for the financial services industry*". So far, as Stone et al. (1997,354) suggest: "*Insurance companies are now having to manage customer bases where average persistence is substantially lower than it used to be. This means a much stronger focus on customer retention, customer acquisition, and customer development*".

This article examines how far the manufacturing oriented frameworks elaborated for the design and development of new products apply to the service sector in general, and to the European insurance industry in particular. European insurance companies operate in a highly volatile market, so their survival relies upon the identification of the outstanding cornerstones leading to market leadership. For that purpose, insurance firms must design and re-design the essential core elements that will allow them to identify new areas of business and attracting and retaining customer. Drew (1995^a, 11) states that the success and/or failure of the new product/service development process for service firms are influenced by factors similar to those encountered in industrial firms. Nevertheless, insurance products and services use to have short product life cycles and it is easy to copy them; thus, some differences may arise between industrial products and insurance services. It should be also taken into account that the managerial practices of the European Insurance companies may diverge as the companies belong to different countries, deal with different types of insurance premiums, and achieve diverse performance success levels. So far, it is important to develop an explanatory model that allow both researchers and practitioners to recognise the isolated and conjoint effects of the different variables that affect the success of the New Service Development Process.

In this article, we examine how most successful insurance companies, -as it pertains to the quality, frequency, and quantity of successful new services, apply their managerial practices. More particularly, we review the underpinning points between innovation degree, marketing information sharing -as related to managerial practices, new product success and corporate performance. The model is tested applying structural equation modeling techniques to a sample of 113 European Union Insurance firms. We identify the different explanatory relationships, as well as the relative importance of the different analysed variables.

*Universidad Carlos III de Madrid, Departamento de Economía de la Empresa, C/ Madrid, 126, 28903 Getafe (Madrid).

Tfno.: 624.96.43, 624.96.40. Email: catinaag@eco.uc3m.es. Email: nora@eco.uc3m.es

**Universidad Pública de Navarra

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1. - INTRODUCTION

Some companies are actively pursuing international market opportunities with the expectation that these strategies can improve their chances of long-term survival, despite of the many risks and uncertainties associated to international expansion (Kitchell, 1995). Among such companies, we find those belonging to the European Insurance sector, which is becoming increasingly international and innovative, although highly dependent on successful initiatives on new products and services. Moreover, this is a service industry, and, as recently stated by Youngdahl et al. (1997, 19): "*Service customers tend to be much more involved in service production, or delivery, than their manufacturing counterparts do. Many service organizations design co-production into their service delivery systems*".

Which are the factors that lead to the success or failure of a new product and/or service? Song and Song and Parry (1996) have studied the factors that determined the Japanese new product successes. They conclude that: "*New product success is positively influenced by the level of R&D -manufacturing-marketing integration and information sharing, the firm's marketing and technical resources and skills, the proficiency of the NPD activities undertaken, and the nature of market conditions*" (Song, Souder, and Dyer, 1997, 90). They identified cross-functional integration and product competitive advantage as two key determinants of new product success. Ottum and Moore (1997) have found out that a very strong relationship between market information processing and new product success, anytime that the information is not only gathered and shared, but it is effectively used as well. Furthermore, several authors have demonstrated that, if timely, new product introduction has a capital importance to manufacturers' success.

If we take as a starting point that services differ from manufacturing in several relevant

features¹, the key question that a service company would have to solve could be:

-How should the firm allocate its resources so that its investments on the new product/service development process allow the organization to achieve its goals in the most effective way?

In this article we concentrate on establishing the linkages between the innovativeness degree and the degree of marketing information sharing, as it may affect the corporate performance of a representative sample of the European Insurance sector. The aim of this research then, is not to add more factors to the checklists suggested by the already existing body of literature², but to examine how the factors interrelate, interact and impact on corporate performance. Thus, this paper is intended to be useful to top management of insurance firms who may be considering, or in the midst of re-evaluating, their approaches to management of innovation and new product/service development.

The contents of the paper are as follows: Section 2 introduces the conceptual framework and relevant literature that encompass the new product /service development process and all its explanatory variables. The database and the measurement instruments used, as well as the method applied to develop the causal framework that links marketing information sharing, innovativeness, successful development of new products, and corporate performance, are described in Section 3. The fourth section is devoted to present and to test the goodness-of-fit of the model suggested. We present and discuss the empirical results in Section 5. Finally, we draw some conclusions and assess the potential of this model in Section 6.

2. - CONCEPTUAL FRAMEWORK.

Almost thirty-five years ago, Burns and Stalker (1961) identified that organization and management affects product development and several factors important for new products

¹ See, for instance, Bowers (1986), Cooper and de Brentani (1991, 1992), de Brentani (1993), etc.

² Such as Cooper and Kleinschmidt (1995), Ettlie (1995), Barczak (1995), Calantone et al. (1995) or

development have been identified. According to McQuarter (1998, 122), there are two points that are particularly important: management and organisation. This means that, in spite of the fact that some kind of technological advantages may create an opportunity for a successful new product or service, making it a reality depends on the effective management and mobilisation of organisational resources. The problem that we are facing here is that it is not very clear as yet if what has proven to be useful for products, is going to be useful for services as well. Dant et al. (1998, 7) point out that it is quite difficult to determine whether or not a service has been successful, since most evaluations of services used to be subjective, perceptual, instantaneous, etc. These features, which are originated by, and pose new challenges to, the strategic responses of the firm, require unique managerial decisions and actions. Such singularities often lead to higher consumer's perceived risks, which implies a higher uncertainty regarding quality and satisfaction judgements.

As it has been suggested by de Brentani (1993, 15): "*The fact that new service development is pervasive in the financial sector and represents a key opportunity for growth means that companies which do not take parts in such ventures risk their own continued survival in the industry*". The problem is that the success rate is very low, which makes risk a major concern among service firms. A useful contribution to tackle with the risk associated to new product/service development is to gain a better knowledge of factors contributing to success and failure. Thereupon, a capital question to solve is which are the key indicators linked to new service performance. Besides, since it is very difficult to evaluate the performance of financial services, such as insurance services, it is necessary to describe the most significant non-direct benefits that may be derived when a new insurance services product is introduced, as proposed by Easingwood and Percival (1990, 8).

For top managers of insurance firms who have to deal with the issue of continuously

launching of new services, an interesting question is whether or not there is a direct path that links Innovativeness in Successful New Services to Remarkable Corporate Performance? If the answer were yes³, the next question to solve would be related to the quantification of such relationships, i. e., what and how many resources should the firms allocate to each of them? Then, the following question would be connected to the existence of special factors that assure the achievement of high levels of innovativeness, the introduction of successful new services, or both of them. Finally, Is there a direct or indirect relationship between reinforcing marketing information sharing and increasing corporate performance?

We will consider these questions in further detail in the next paragraphs.

2.1. *Innovativeness*

The innovation process is a complex phenomenon consisting on the incorporation of new ideas and technology (Foster, 1986). It is characterised by several stages that reach from basic research up to the penetration of the market with new products (Subramanian, 1996). Consequently, the level of innovation uses to be measured by the degree of change that an innovation brings in comparison to the existing level of "performance" of a product concept (Fitzsimmons et al. 1991, 404). Hollenstein (1966, 633) argues that there is a very high correlativeness among the innovation indicators, making it possible to develop a composite measure.

Innovation in itself is not always desirable. A high rate of innovation that leads to short product life cycles may not always be desirable from a manufacturing-based business perspective, although we know very little about its effects on the service sector. Likewise, unmanaged innovation at the product development stage is a potential cause of delays in product introduction, and consequently, creates lost opportunities that occur under time. We

³ Only Harris and Katz (1991) have attempted to evaluate the direct performance impacts of

don't know yet how this affects to the introduction of new services, although there is also empirical evidence that suggests that the intensity or degree of innovativeness of a firm partly determine new product development success (Calantone et al. 1994).

The literature on the marketing of financial service identifies several benefits that may be gained thorough the experience of innovating. One is the improved new service development capability achieved by a firm, when it success in introducing new product/service. The process of new product developing produce a better understanding of a market's particular requirements and create a general innovation expertise ready for further exploitation (Easingwood and Percival, 1990). Other benefit is that the systems (hardware, software) developed to launch the new product/service can provide a "platform" that eases the introduction of subsequent product/services. The non-direct benefit resulting from new financial product launched that is recognised as the most valuable according to the managers, is the resulting improvements to the corporate image. Other significant non-direct benefits that may be derived when a new financial services product is introduced are: new financial products can help to reinforce the loyalty of existing customers, who by buying more existing products, help to redirect the company in new direction (Easingwood and Percival, 1990).

2.2. Marketing Information Sharing

Market information generation is the most important source of new product ideas (Cooper, 1993), but the participation and integration of different functions in new product design is linked to market needs understanding and new product success as well (Ettlie, 1997). According to Kohli and Jaworski (1990) *"it became increasingly clear that responding effectively to a market need requires the participation of virtually all departments in an organization (...)* For an organization to adapt to markets needs, market intelligence must be

innovation in the insurance industry.

communicated and disseminated to relevant departments and individuals in the organization”.

Ottum and Moore (1997) have found that sharing market information across functional departments and areas is critical to innovation success. This way they give support to suggestions on interfunctional coordination, assuring the participation of the organisational departments in the creation of value for the targeted segments and in the quick response to their demands. De Brentani (1993, 16)) suggests *“that new services need to be fully tested before and after their market launch to ensure that potential fail points are eliminated and that customers understand the service and are satisfied with it”*. That is why some information sharing is required at least. Besides, *“simultaneity in services makes that new offerings need to be marketed not only to customers but also to the firm’s front line so that they understand the new service, are convinced of its benefits for customers, and view it as an integral part of the company’s product/service line.”*

On the other hand, several studies have demonstrated that successful integration of cross-functional units depends on effective information and communication sharing. It has been recognised that innovation performance is strongly related to the amount of communication and co-operation among marketing, production/operations, and R&D, i.e., the market information exchange between the firm units or departments⁴. Linked to the marketing information sharing is the concept of *Interdepartmental Connectedness*, defined by Menon et al. (1997,188) as: the degree of formal and informal direct contact among employees across departments (Kohli and Jaworski, 1990). Recent works suggests that some informal networks, rather than formal organisational structures, may increasingly influence organisational activities and outcomes (Slater and Narver, 1995). The emphasis on intelligence dissemination parallels recent acknowledgement of the important role of “horizontal

⁴ See, for instance, Griffin and Hauser (1992), Narver and Slater, (1990), Ottum and Moore (1997),

communication” in service organizations. Personnel at all levels need to think in innovative terms, and forms must establish and support systems that stimulate communication and involvement by employees who represent specialised functions and who have different skills and point of view. In a similar way that marketing and R&D people in the manufacturing sector try to face communication problems, managers in financial service firms must deal with their own communications gap. They should establish new service development environment that permit diverse human resources to synthesise their respective capabilities and viewpoints in creating innovative and successful new service (de Bretani, 1993).

Research results pertaining the connectedness concept suggest that positive interdepartmental connectedness, by fostering greater esprit de corps, allows for early and quick exchange of customer and market information (Menon, Jaworski and Kohli, 1997, p. 188). Then, the impact of interdepartmental connectedness on product quality is well documented. Similarly, the market orientation literature have shown that interfunctional coordination (as part of the market orientation construct) is a determining factor of the business performance (Narver and Slater, 1990. Jaworski and Kohli, 1993). Writings in the market orientation literature (e.g. Kohli and Jaworski, 1990) argue that interdepartmental interactions facilitate responsiveness to customers in terms of the quality of the entire marketing mix -including the product and/or the service offering. This is made possible because employees across departments use direct formal and informal ties to discuss and solve project-related issues.

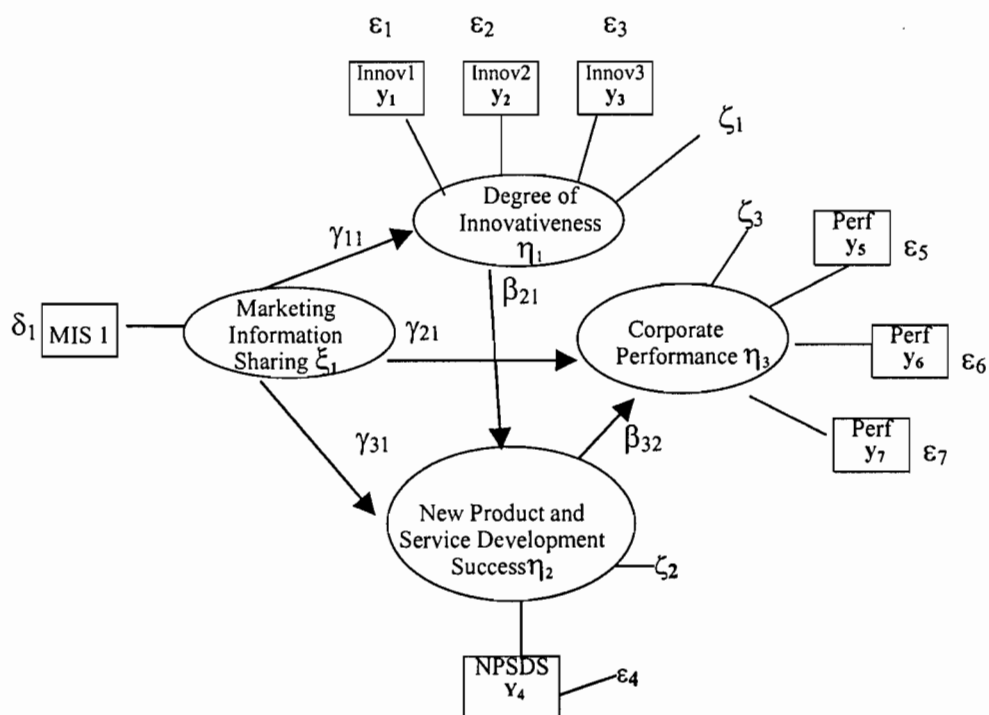
Finally, the market orientation literature has shown that marketing information sharing (as part of the market orientation construct) is a determining factor of the corporate performance, as shown by Jaworski and Kohli (1993), Khan and Mentzer (1998) and Narver and Slater (1990) among others.

The model proposed in Figure 1 has been developed to provide a framework for the study of

Song and Parry (1996), and Song et al. (1997), among others.

the effects of marketing information sharing in the corporate performance of the European Union Insurance sector. It posits that corporate performance, innovativeness degree, and new product-service development success are dependent on the amount of marketing information sharing. Marketing Information Sharing is posited to impact innovation by its effect in both innovativeness degree and new product-service development success. Additionally, innovativeness degree and new product-service development success. Additionally, innovativeness is hypothesised to affect new product-service development success, and new product-service development success to affect corporate performance.

FIGURE 1: PROPOSED MODEL



The preceding discussion suggests the following five research hypotheses:

H1: Marketing Information Sharing is positively associated to Degree of Innovativeness of the Firm.

H2: Marketing Information Sharing is positively associated to the Success of the New Product/Service Development Process

H3: Marketing Information Sharing is positively associated to Corporate Performance

H4: The Degree of Innovativeness is positively associated to the Success of the New Product/Service Development Process

H5: The Success of the New Product/Service Development Process is positively associated to Corporate Performance.

These hypotheses, which are grounded on well-known theory, are the basic pillars of our model. We believe that the replication of earlier manufacturing results will increase confidence in the theoretical framework that we are testing.

3. - DATA, RESEARCH METHOD AND VARIABLES

The data used in this study were collected from a survey of 554 European insurance firms conducted in 1997⁵. The sampling frame consisted of a mailing of all European Union insurance companies listed in the Financial Times yearbook for 1995. Data were collected by postal survey addressed to the CEOs in each insurance firm. A copy of the questionnaire, together with a personalised letter, was mailed to them. Two-wave mailing procedure was used, and three weeks after the initial mailing we sent a replacement copy of the questionnaire, together with another personalised letter, to the informants.

We received responses from 137 European insurance companies, of which only 113 were usable because of missing values; thus the response rate represented 24, 7 % of the European Union Insurance Industry. Table 1 shows the sample data. It should be remarked that the final sample represents 16% of total premiums in the EU. A T-test applied to the first and fourth quartiles (the earliest and the latest received) showed that there were no significant differences in the responses to the target measures.

⁵ Different authors have commented (see Drew (1995b) for instance) that benchmarking within the insurance industry may be obstructed by fear of losing valuable competitive information.

A five-page instrument was developed and pre-tested for this research. The measures of the different constructs are listed in the Appendix 1 and are the followings.

3.1. Marketing Information Sharing.

The *Marketing Information Sharing* scale is based on previously published studies (Kohli and Kaworski (1990), Menon et al. (1997), Sinkula et al. (1997), Lado et al. (1998)). It consists of four-item scale for measuring the amount of market information sharing between the different functional areas, by formal and informal procedures. An eleven position format (0 = strongly disagree, 10= strongly agree) have been used for all the items.

3.2. Degree of innovativeness.

The measure of the innovativeness degree have been adopted from Miller and Friesen (1982) scale, which has been used in subsequent researches. A seven-point scoring format was employed for the three scale items. The first item measures the rate, relative to competitors, of new product-service introduced by the firm, were 1 = “less than”, and 7 = “greater”. The second one measures the amount of new lines marketed, were 1 = “no new lines of products or service”, and 7= “very many new product or service lines”. Finally, the third item reflected the changes introduced in product or service lines, where 1 = “changes have been of a minor nature”, and 7 = “changes have usually been quite dramatic”.

3.3. New product/service development success.

We used the scale developed by Atuahene-Gima (1996) to evaluate the extent to which the objectives set for new service/products are achieved. The respondents were asked to select a new product or service that was introduced in the previous five years by their firms. Using the product or service selected as reference, they had to measure to what extent the new product

or service has been a success in meeting its sales growth, market share, sales figures, and profit objectives. A seven point Likert scale was used for this purpose and considered the four items, being 1 = not successful and 7= very successful.

3.4. Corporate performance

A group of three objective measures of financial and commercial performance was selected for analysis. The selection was based on a review of literature on similar research (Manu and Sriram, 1996). We have used the following objective measures: domestic market share, yearly premium growth, and annual profitability (percentage premiums), to scale the performance of the insurance companies⁶.

TABLE 1. DISTRIBUTION OF PREMIUMS IN THE SAMPLE AND THE TARGET POPULATION (US\$ millions)

<i>COUNTRY</i>	Sample		Total EU Insurance Market(*)	
	<i>PREMIUMS VOLUME</i>	%	<i>PREMIUMS VOLUME</i>	%
Austria	7759	8.0	12873	2.1
Belgium	8859	9.0	14973	2.6
Denmark	-	-	9186	1.5
Finland	632	0.6	9250	1.5
France	7522	7.6	146244	24.4
Germany	13395	13.6	152525	25.5
Greece	1344	1.4	1836	0.3
Italy	7060	7.2	39634	6.6
Ireland	57	0.1	4810	0.8
Luxembourg	-	-	4423	0.7
Holland	7363	7.5	36013	6.1
Portugal	1017	1.0	5223	0.9
Spain	9653	9.8	27582	4.6
Sweden	3250	3.3	11763	2. -
U. K.	30339	30.9	122342	20.4
Total	98250	100	598679	100

(*) Source: CEA, 1997.

⁶ We are conscious of the fact that researchers and practitioners use many different measures. Our article is concerned with new product/service program success at firm level.

4. - ANALYSES AND FINDINGS

We have depicted the proposed latent variable model, as shown by Figure 1, which considers all structural paths and measurement relations. As noted by Fornell and Larcker (1981, p. 45) *“before testing for a significant relationship in the structural model, one must demonstrate that the measurement model has a satisfactory level of validity and reliability”*. Prior to testing this model and attempting to draw substantive inferences about the merits of the hypotheses, we discuss the test performed to establish unidimensionality of the multiple-item constructs, as well as convergent and discriminant validity of the measures.

4.1. Measure validation

The scale unidimensionality and convergent validity were analysed using confirmatory factor analysis (CFA) (EQS 5.6, maximum likelihood robust method), for each of the four construct measures, because CFA is a more rigorous method for assessing unidimensionality than coefficient alpha, exploratory factor analysis, and item-total correlations. We use the overall model fit indices and the robust t-values associated with the individual items, to identify the final items set which represent each of the constructs. Table 2 contains the summary results of the CFA.

These models provide a satisfactory fit to the data for all the different constructs. The Chi-square value of “Marketing Information Sharing” was significant; however, this statistic has been deemed a questionable measure of goodness of fit due to its sensitivity to sample size (Bagozzi and Yi, 1988). All the parameter estimates for all the measurement constructs were significant at 5%. Some of the individual-item reliability estimations were modest; nevertheless, no item was deleted from any scale on the basis of the CFA. We have retained the items to capture the breadth of the constructs. Based on the guidelines for the reliability assessment suggested by Bagozzi and Baumgartner (1994), we have calculated the indices of

composite reliability for each scale (see Table 3). All of these composite reliability indices are indicative of the internal consistency that is suitable for research in the social sciences

TABLE 2: ASSESSMENT OF UNIDIMENSIONALITY AND CONVERGENT VALIDITY

Construct	Estimated λ (Standard)	t-value	Estimated error variances (Standard)	t-value	λ^2_c (degrees of freedom)	NFI	CFI	AOSR
MARKETING INFORMATION SHARING					6.816 (2)	0.935	0.948	0.050
Mis1	1.000 (0.578)	-	2.721 (0.665)	5.726				
Mis2	1.389 (0.687)	4.106	2.958 (0.528)	4.931				
Mis3	1.882 (0.784)	4.430	3.043 (0.385)	5.148				
Mis4	1.549 (0.751)	4.201	2.532 (0.435)	2.825				
INNOVATIVE-NESS DEGREE					1.202 (1)	0.970	0.989	0.046
Innv1	1.000 (0.580)	-	0.770 (0.662)	5.237				
Innv2	1.713 (0.758)	3.463	0.852 (0.426)	2.629				
Innv3	1.000 (0.553)	-	0.886 (0.693)	5.911				
NEW PRODUCT/SERVICE DEVELOPMENT SUCCESS					0.177 (2)	1.000	1.000	0.002
NPSDS1	1.000 (0.816)	-	0.626 (0.335)	2.865				
NPSDS2	1.015 (0.812)	10.277	0.663 (0.341)	3.293				
NPSDS3	1.365 (0.968)	13.553	0.158 (0.064)	1.998				
NPSDS4	1.084 (0.801)	12.698	0.819 (0.359)	5.809				
PERFORMANCE MANCE					0.162 (1)	0.999	1.000	0.017
Perf1	0.592 (0.538)	2.834	8.429 (0.710)	4.269				
Perf2	1.000 (0.627)	-	15.155 (0.607)	5.158				
Perf3	1.000 (0.636)	-	14.433 (0.596)	6.056				

Next, we analysed the indices of individual-item reliability (standardised λ^2) for every index,

in order to assess the measurement error associated to every index. Despite some of the observed variables, -showing significant factor loading-, presented low individual-item reliability, thus suggesting their elimination, we decided to go on with our analysis and to study the indices of composite reliability, as suggested by Bagozzi and Baumgartner (1994). We assessed discriminant validity by examining the 95% confidence intervals around all possible pairwise factor correlations in order to determine whether or not they encompass 1.0. Table 4 provides these correlations. None of the confidence intervals encompasses 1.0, thus indicating discriminant validity among all the constructs. So far, we have been able to:

- i) Provide evidence of the measure unidimensionality.
- ii) Test the correspondence between the hypothesised constructs and their respective indicators (convergent validity), and
- iii) Demonstrate the discriminant validity, i.e., that the constructs are distinct.

TABLE 3: ASSESSMENT OF INTERNAL CONSISTENCY RELIABILITY INDICES

Construct	$\Phi_{unweighted}$	$\Phi_{weighted}$
MARKETING INFO. SHARING	0.796	0.810
INNOVATIVENESS DEGREE	0.680	0.697
NEW PRODUCT-SERVICE DEVELOPMENT SUCCESS	0.914	0.943
CORPORATE PERFORMANCE	0.628	0.634

We will now proceed to test the overall structural model as depicted by Figure 1.

4.2. Hypotheses Tests

We have used structural equation modelling (EQS version 5.6, Bentler, (1995)) to analyse the various relationships hypothesised in this study, using covariance matrices as input. Because of the sample size and considering the scale characteristics, we computed the Marketing Information Sharing and New Product-Service Development Success scores as an unweighted

sum of the items corresponding to each scale.

TABLE 4: ASSESSMENT OF DISCRIMINANT VALIDITY

Description	Estimate Phi	t-value	Confidence interval (95%)
MARKETING INFORMATION SHARING			
With			
Innovativeness Degree	0.648	9.921	(0.487; 0.808)
New Product-Service Development Success	0.572	6.540	(0.402; 0.742)
Corporate Performance	0.564	4.881	(0.337; 0.791)
DEGREE OF INNOVATION			
With			
New Product-Service Development Success	0.757	9.426	(0.600; 0.914)
Corporate Performance	0.819	10.553	(0.669; 0.969)
NEW PRODUCT-SERVICE DEVELOPMENT SUCCESS			
With			
Corporate Performance	0.675	7.273	(0.494; 0.856)

Taking into account the high similarity observed between the weighted and unweighted composite reliabilities, we have developed composite measures of the latent variables, just summing up their index scores. We employed the procedure outlined by Hayduk (1987) to include the measurement error of these constructs. These measures are subjected to measurement error, which may incorporate some biases when estimating structural coefficients. The effects of such errors were included, according to the strategies suggested by Hayduk (1987). By acting this way, we include the existing relationship between the index and its latent variable, as well as the variance of the measurement error of the index, represented respectively by $\alpha^{1/2}S_x$ and $(1-\alpha)S_x^2$. α represents the scale reliability coefficient, and S_x and S_x^2 are the standard deviation and variance, respectively, of the new observed variable (composite measure) in the construct. Four indices were employed to evaluate the fit of the proposed model. Based on the fit indices provided by EQS, we affirm that the model

fits the data well. The values were: χ^2 (17 degrees of freedom) = 23.495, $p < 0.133$, $NI = 0.903$, $CFI = 0.970$, and $AOSR = 0,050$. Table 5 shows the standardised parameter estimates for the measurement relations and structural paths of the model.

The amount of explained variance for endogenous variables is relatively high. The respective values are 43.3% for the *Innovativeness Degree*, 67.4% for *New Product/ Service Success*, and a 54.4% for *Corporate Performance*.

5. - DISCUSSION

This research has demonstrated empirically several very important findings for insurance firms. As a matter of fact, this study is the first to investigate how those factors, -suggested by the theoretical literature as the most relevant for the survival of service firms, interrelate, interact and impact on corporate performance.

**TABLE 5. -RESULTS OF THE ESTIMATED MODEL:
5.1. -MEASUREMENT MODEL**

Parameter	Parameter estimated	Standardised parameter estimated	t-value
λ^x_{11}	6.792	0.894	-
θ^{δ}_{11}	11.533	0.200	-
λ^y_{11}	0.617	0.585	4.716
λ^y_{21}	1.000	0.701	-
λ^y_{31}	0.723	0.616	5.409
λ^y_{42}	4.960	0.954	-
λ^y_{53}	0.616	0.565	3.972
λ^y_{63}	0.933	0.584	4.094
λ^y_{73}	1.000	0.647	-
θ^{ϵ}_{11}	0.720	0.657	6.048
θ^{ϵ}_{22}	1.015	0.508	6.884
θ^{ϵ}_{33}	0.839	0.620	6.314
θ^{ϵ}_{44}	2.433	0.090	-
θ^{ϵ}_{55}	8.077	0.680	5.176
θ^{ϵ}_{66}	16.721	0.657	6.182
θ^{ϵ}_{77}	13.836	0.580	5.470

5.2. -STRUCTURAL MODEL

Parameter	Parameter estimated	Standardised parameter estimated	t-value
γ_{11}	0.653	0.658	5.413
γ_{21}	0.149	0.149	0.878
γ_{31}	0.684	0.217	1.236
β_{21}	0.720	0.715	4.449
β_{32}	1.850	0.583	3.652
ϕ_{11}	0.998	1.000	6.597
ψ_{11}	0.558	0.567	3.301
ψ_{22}	0.326	0.326	2.516
ψ_{33}	4.526	0.454	2.238

Our results show that there is not as yet a direct path that links innovativeness and corporate performance. Since there is little theory or research on this question as regards insurance firms, this study is exploratory.

As we suggested when introducing the research hypothesis H1, the *Marketing Information Sharing* has a significant positive effect on the *Degree of Innovativeness* of the European Union Insurance companies (standardised value: $\gamma_{11} = 0.658$). The direct path that links *Marketing Information Sharing* and *New Product-Service Development Success* (H2), and the other direct path linking *Marketing Information Sharing* and *Corporate Performance* (H3), are not significant (t-values 0.878 and 1.236 respectively). Something similar has been described by Kahn and Mentzer (1998, 57), for the manufacturing sector. They have found that although marketing managers may consider that collaborating with manufacturing contributes to raise the corporate performance, *manufacturing managers indicated that collaboration with marketing only improves product management performance and satisfaction in working with management*". They also demonstrate that some information exchange between marketing and manufacturing (*Marketing Information Sharing* and *New Service Development success* variables in our study) may be seen as unnecessary, or the time

to prepare and document such information may be viewed as unproductive (p. 58). We have identified, however, an indirect positive effect, which links *Degree of Innovativeness* to *New Product-Service Development Success*. Our evidence corroborates what de Brentani (1993) suggested, i.e., that a primary key to developing successful new insurance products lies in creating an innovative and open culture of new service development within the firm, where top management encourages market information sharing among its diverse resources". Effectively, the empirical evidence supports that *Degree of Innovativeness* has a direct and significant effect on the *New Product-Service Development Success* (standardised value $\beta_{21} = 0.715$) as suggested by Hypothesis H4. Finally, Hypothesis H5 is also supported (standardised value $\beta_{32} = 0.583$, t-value = 3.652), thus meaning that the corporate performance scores of the insurance companies depend on the level of achievement of the innovation process (which appears to be the essential element in translating marketing information into satisfactory insurance services). Then, the focus should be to stimulate the flow of marketing information sharing, to stimulate the intensity of the innovativeness degree, as well as to ensure the implementation of innovations as successful developments of new services. Then, the insurance firm would very likely see how its corporate performance increases.

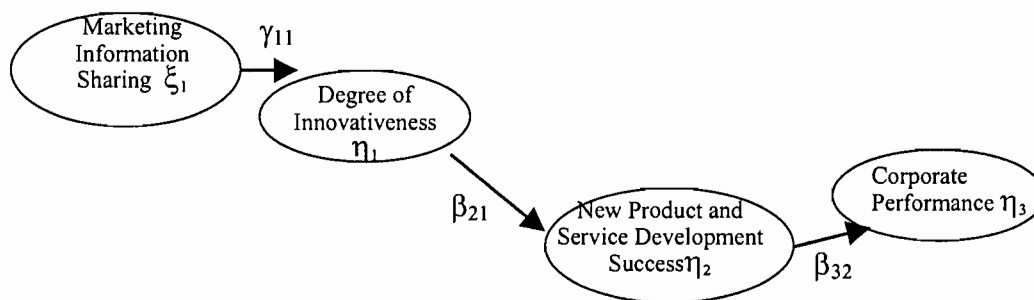
Our results, which indicate that marketing information sharing enhances firm innovativeness and, consequently, the level of success of the new product -service development process in the insurance industry, also support the central importance of connectedness to product development, as was previously tested for manufacturing companies⁷. Figure 2 depicts the resulting model.

So far, our objectives have been achieved, since we have been able to test that our research hypotheses, which had been demonstrated to be true for the manufacturing sector, have proved to be true for the insurance industry as well. Besides, this exploratory study has an

⁷ See, for instance, Hollenstein (1996), Olson et al. (1995), Souder (1987), Urban and Hauser (1993),

explanatory power, since it quantifies the relative importance of the analysed variables as regards to the performance of firm as a whole.

FIGURE 2: THE RELATIONSHIP BETWEEN MARKETING INFORMATION SHARING, DEGREE OF INNOVATIVENESS, NEW PRODUCT AND SERVICE DEVELOPMENT SUCCESS, AND CORPORATE PERFORMANCE



6. – LIMITATIONS AND FUTURE RESEARCH

Several limitations of this study are clearly evident. First, the generalisability of the results to other firms from other geographic areas and other service industries need to be further tested. If the same results were obtained, then our knowledge of consumer expectations would be advanced. Second, every study is limited by the design of the questionnaire and/or survey instrument, and this study is not an exception. Just to mention two examples let's consider that only several countries of Europe have been considered and that different measures for corporate performance could have been used.

But the study's limitations provide several issues for future research work. Specifically following our study, research should consider, among others, the following aspects:

- Some insurance firms may be following strategies of geographical differentiation (as opposed to concentration) of activities and product differentiation (as opposed to

among others.

standardisation). These strategies, while creating market advantages, may hinder economies of scale in the insurance sector, thus lowering corporate performance. It is possible that such companies have supported marketing information sharing, innovativeness and, very likely, have achieved successful new service development processes. Our study is incapable of isolating the effects of the related strategies from the consequences of their managerial and organisational activities, as they pertain to new product/service development processes. Additional index of service and corporate performance, such as attracting new customers; achieve higher overall customer satisfaction, improving the loyalty of existing customers, or changing the company's image Easingwood and Percival (1990), should be considered when analysing the performance of marketing information sharing activities, new product/service development processes and innovative activities. Besides, it could be interesting to differentiate companies according to the marketing strategies that they are following. By acting this way we could know whether or not more internationalised insurance companies are launching more new successful services than what more domestic ones are doing, whether or not they develop more innovative efforts, and so on.

- More attention should be paid to the role played by the human resources of the insurance company. For instance, it is possible that the quantity and quality of marketing information sharing depends upon the qualification and hierarchical position of the people responsible to communicate it. Linked to the qualification of the company's people, the quality of life at the insurance firm should also be taken into account, so that the impact of different organisational and managerial patterns on the successful introduction of new products/services can be established.
- Drew (1995b, 5) has suggested that in the service sector is not very frequent, as opposed to the manufacturing sector, where product innovation precedes process innovation.

Since copying new insurance services is very easy, and to achieve sustainable competitive advantages using product strategies is so difficult, it would be very challenging to study the effects of process innovation on product innovation strategy and success. Furthermore, the linkages between process and product innovation should be analysed without neglecting, as we have done in this study, the technological infrastructure used by the insurance firms of the sample.

It is very difficult that the future insurance firms' environment is going to be more stable and lack of dynamism and opportunities than today's. The need for innovation, as a facilitator of increasing corporate performance, will continue. In the next century, insurance companies will have to address their resources as to focus their efforts to stimulate the flow of marketing information sharing, to stimulate the intensity of the innovativeness degree, as well as to ensure the implementation of innovations as successful developments of new services.

APPENDIX 1: MEASUREMENT INSTRUMENT

MARKETING INFORMATION SHARING

- ◇ Major market information is always spread over all the company's functional areas (Mis1)
- ◇ Marketing strategies are always drawn up in agreement with the other business functions (Mis2)
- ◇ We periodically organise interfunctional meetings to analyse all important market information (Mis3)
- ◇ We encourage informal exchanges of information between the company's different functions (Mis4)

INNOVATIVENESS DEGREE

- ◇ The rate, -relative to competitors, of new product/service introduction by the firm (Innv1)
- ◇ How many new lines of products or services has your firm marketed in the past 3 years? (Innv2)
- ◇ Change in product or lines have been... (Innv3)

NEW PRODUCT-SERVICE DEVELOPMENT SUCCESS

- ◇ To what extent has the new product/service been a success in meeting its sales growth objectives since its launch (NPSDS1)
- ◇ To what extent has the new product/service been a success in meeting its market share objectives since its launch (NPSDS2)
- ◇ To what extent has the new product/service been a success in meeting its sales objectives since its launch (NPSDS3)
- ◇ To what extent has the new product/service been a success in meeting its profit objectives since launch (NPSDS4)

CORPORATE PERFORMANCE

- ◇ Domestic Market Share (%) (Perf1)
- ◇ Premium Growth (% per year) (Perf2)
- ◇ Profitability per year (% premiums) (Perf3)

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