

Departamento de Economía Aplicada

DOCUMENTOS
DE
TRABAJO



UNIVERSIDAD DE JAÉN

THE E-INSURANCE COMPANY

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WP 0203 /Nº 28

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1.- INTRODUCTION

Technology has the capacity to change the forces of the environment on which insurance companies base their strategy. The implications which technological change and especially the Internet give rise to are concentrated, principally, on the strategic aspect, affecting the conduct of the company and the market. In the main, the combination of information and communication technology has propitiated the elimination of entrance barriers in the insurance sector and has modified the links of its chain of value.

Web technology favours the removal of access barriers to the insurance market, thus facilitating the entry into the market of new insurance companies with different business models. Therefore, the Internet breaks down both physical and temporal barriers which hinder the distribution of their products to customers, thus permitting the widening of markets. In short, with the advent of the new technologies, the elimination of market access barriers and an increase in market transparency are expected, thus giving rise to an intensification in competition.

Moreover, focusing on business perspectives, we know that the insurance function¹ is based on the information systems² which concern the production and distribution of insurance as well as the customers in their decision to buy. Given the nature of its

¹ The function of insurance activity consists of transforming individual risks into collective risks, transferring them to the insurance company.

² Information systems are a support activity with the capacity to modify the rest of the activities in the chain of value, modifying the manner of carrying out transactions.

operations, traditionally, the insurance company has used information and communication technologies intensively, being one of the pioneers in their implantation.

The appearance at the beginning of the nineties of the so-called World Wide Web has implied, fundamentally, new possibilities in the application of this network for business ends. From a business perspective, the Internet has meant not only a medium of information and communication through which it is possible to reach a large number of potential customers³. In addition, the same network permits us to order the chosen products, pay for them by the electronic transfer of funds and also distribute them. Therefore the network should be seen as a business tool which must contribute to more agile administration.

The introduction of these technologies in the organisation implies relevant internal changes, such as technological and organisational training, or the broadening of the characteristics of the product or the service of the organisation (Table 1). However, European insurance companies have lagged behind in their business initiatives in comparison with other financial intermediaries, such as banks. This lack of development has been due to the fact that insurance is a product which must be sold and that its direct distribution is more difficult (Lorraine Bompard et al.; 2001).

Table 1. The Internet and Organizatio

Organization	Source of added value
	Promotion of the product
	New sales channel
Improves	Direct savings

³ It is established that the value of a network depends on the number of members and also on the capacity of one of its members to establish relations with the rest of the members - external aspect of the network-.

	Time needed to commercialise Consumer service Product image
Transforms	Technological and organizational training Relationship with consumers
Redefines	New capacities of the product New models of business

Source: Bloch & Segev, 1996

The purpose of this study is to focus on the entrepreneurial perspective which involves a new approach to insurance activity, carried out by means of creating firms organised and based exclusively on information technology and Web technology. A model of firm which we must differentiate from electronic commerce which is identified with commercial transaction, mainly as a new alternative in distribution.

In accordance with the above, this study is organised under the following sections. In the second section, following this introduction, we turn to the economic literature which has developed in the field of Industrial Economy, to obtain responses which interpret the nature of the e-insurance company. In the third section we interpret it as a business model, where activity, entrepreneurial nature and information technology are related. In the fourth section we expound the singular characteristics it possesses as a company, ending with the main conclusions extracted from the study.

2.- THE E-INSURANCE COMPANY AS A BUSINESS MODEL IN THE NET

Insurance companies can complement or even substitute their activities based on the real world by those developed in the virtual world. The e-insurance company is situated as a business model in the Net which replaces real activity. A model in which

we opt for acting exclusively in the electronic market, as an alternative to traditional insurance business.

In the first place, we refer to the business models based on the Internet which are complementary to the current ones. In such models the activities or functions carried out by the insurance companies on the Internet complement the main activity. According to Quelch and Kleinin (1996) , organisations can use businesses which complement the current ones, using the Internet for this purpose as an Information and Communication System. We consider as a reference the Informative-Transactional-Operational model (Koh and Balthazard, 1997).

The informative Web is used to disseminate information in any type of organisation with the aim of making known its activities and the products or services it offers. The transactional Web, on the other hand, supports the exchange of products or services, either directly or indirectly; and the operational Web permits the interconnection of the systems of the agents who intervene in the transaction. The operational model uses Web technology to share documents among different areas of the internal organisation or between different external organisations. Normally , the organisational Webs are informative to begin with, and later assume transactional and operational functions.

Traditional insurance activity is based on these business models. In short, the commercial models for distribution via the Internet can be classified in insurance Web sites. The insurance companies have a Web site which gives information about the firm, its products and possibilities of contact. Other insurance companies go beyond

information and endow the Web with the capacity to support the exchange of insurance. Examples of companies in the Spanish insurance market are Pelayo, Winterthur, La Estrella, Santa Lucía, Sanitas and Ocaso, amongst others.

Other commercial models are the product portals (vertical portals), where financial and insurance products are offered. Portals where a complementary relationship is established between the different products. We consider the sales outlets in thematic Web sites to be along the same lines. As an example we can cite on-line car and real estate markets or birth, retirement, etc. portals. The sales outlet portals seek to offer potential customers the opportunity to acquire insurance.

Finally, as a business model we have the operational Web, which may or may not be linked to traditional activity. An operational Web to develop complementary functions may be conceived. The insurance companies, to begin with, opt for a basically informational model, to add functions (transactional and operative models) at a later date. In the latter case, the Web is used to share documents between the different areas of an organisation. An operational business model which corresponds to a sum total of stages.

A second case is the operational Web with no kind of connection with traditional activity; this is a new type of insurance company known as start-up. This entails a new way of considering insurance activity through the creation of firms based exclusively on information technology and Web technology. For example, the insurance company Webinsurance, which belongs to the Winterthur group, has begun operations in Spain after the success it obtained in Switzerland. It is a site of a European platform of

electronic commerce in which innovatory elements have been incorporated. Via Webinsurance all kinds of transactions can be carried out: the notification of accidents, the issue of insurance policies (life and non-life) or the payment of premiums by credit card or standing order.

In short, the reaction of insurance companies to technological change has not only meant a change in their behaviour, in terms of the different business models, it has also modified entrepreneurial nature through the creation of new, entirely on-line companies.

3.- THE NATURE OF THE E-INSURANCE COMPANY

The economic literature which has developed in the field of Industrial Economy has stored up different propositions that focus on the nature of the enterprise. The Theory of Transaction Costs does not accept the assumption of the perfect operation without friction of economic activity. Since the works of Coase, R. (1937) and Williamson, O.E. (1975, 1979, 1985), the company has been understood as a contractual structure, by which its birth in opposition to the market is justified. The company, in specific hypotheses, is understood as a more efficient way of organising economic activity in relation to the market as an alternative.

The nature of the e-insurance enterprise differs substantially from that of the traditional insurance company: many of its transactions are not carried out under hierarchical supervision, but concomitant with the market via the electronic networks. From this perspective, the formation of electronic markets and organisations is established as substitutive or complementary coordination for the development of

specific functions. This idea has been put forward in Hiltz and Johnson (1990) and Fulk and Desantis (1995). Thus, it might be thought that the effort in terms of organisational cost is greater than those of a similar nature carried out via the market. In fact the electronic market possesses advantages on acting as a mechanism of coordination, given that the search costs, including time, effort and money, are lower in comparison with the traditional market and moreover the transactions are carried out in real time.

This approach begins with the transaction and its qualities as a unit of analysis. The transaction is identified with three attributes: the degree of specificness⁴ of the assets and the degree of incertitude and frequency. When the assets become very specific and the transactions are very frequent, the costs of the relation contract increase and the relations have a higher degree of bilateralness. Then, a unified management structure is considered appropriate to achieve greater control of and responsibility for the transaction.

The development of insurance activity needs to be based on certain very specific activities, for example, underwriting, risk analysis, accident management, etc. These activities determine the necessity for a greater organisational structure. However, the organisation proposed for the e-insurance firm is flexible and based on a unified management structure. So the insurance companies must go to the market to subcontract the more specific functions required by insurance. In this way the offerers appear, specialising, for example, in risk management or in accident procedure.

⁴ The condition of specific assets refers to the degree to which assets can be assigned an alternative use without losing productive value.

If the majority of the specific tasks are subcontracted, the fundamental activity is insurance underwriting, which is characterised by its lack of frequency, being generally of an annual nature. If to this characteristic we add others, such as the fact that insurance is an intangible product whose productive base is information and which can moreover be ordered, distributed and paid for directly via the Net, underwriting entails a series of aspects which reduces the degree of uncertainty and therefore gives the market certain advantages over the organisation.

Another field of economic literature which provides a new vision of the nature of the company is the Theory of Resources and Capacities⁵. From its postulates, it conceives the company as a compendium of resources and capacities which determine the nature and organisation of its entrepreneurial activity. That is to say, companies have some accumulated, non-marketable resources and their own skills and technology. The virtual company begins with information as a productive resource. Starting from this resource, the aim of the e-insurance company is to put new work routines and tasks into practice, both in the production and distribution of insurance. It is a question of channelling information in a sequence of activities that differs from that of a traditional firm, that is to say it means generating exclusive competences in the form of new organisational routines.

In the traditional insurance company, information forms an integral part of the infrastructure of the firm and acts as a support when interrelating with all the other activities. However, in the virtual company it is a primary activity and all the other

⁵ The Theory of Resources and Capacities is developed from two assumptions: first, resources are distributed heterogeneously among firms, and, second, their mobility is imperfect.

activities are relegated to the condition of a support for it. Due to its characteristics as a public commodity, the use of information is continual, it is used in different phases of the process of production and distribution of insurance with no substantial reduction of its capacity. Moreover it can be modified and updated at little additional cost, this being one of its main advantages when used in other tasks. This produces a different concept of organisation and a change in organisational skills and routines.

The main disadvantage can also be seen in the light of the arguments presented by the Theory of Resources and Capacities. From its postulates, the competitive advantages of the firm are developed from accumulated, non-marketable resources and its own skills and technology. The e-insurance companies do not have accumulated, non-marketable resources or their own skills and technology. Among these resources, we include degree of confidence, trademark, human resources, etc. This is a disadvantage in comparison with the traditional insurance company, which is in a better position by virtue of its capacity and the possession of intangible resources accumulated throughout its existence.

4.- OBJECTIVES AND CHARACTERISTICS OF THE E-INSURANCE COMPANY

Thus far, we have maintained that the e-insurance company has a different nature and way of approaching its activity in order to achieve its aims. It is advisable, therefore, to examine in greater depth the singularities and nuances which go into making it a different activity and company. As a company, it is created with the aim of achieving greater efficiency in the insurance process, in underwriting, distribution, administration

and the settlement of claims and, therefore, of achieving lower costs associated with the said process.

In order to achieve its aims it is composed of characteristics which make it different. Among these, we have to emphasise its organisational structure, whose architecture is based on the convergence between computer science and telecommunications. It is within this architecture that its most significant systems reside; for example, management systems, product administration systems, customer-oriented sales supports, etc. Therefore, we are in the presence of an insurance company in which the processes of production have been redesigned; they have been integrated and digitalized with the aid of Web technology and oriented towards the customer. All the company's functions, both internal and external, are carried out on the Net.

Another of the fundamental characteristics of the e-business firm is the inverse order of its chain of value added activities in comparison with the traditional insurance company (Escobar, M. ; 2000, p.103). The chains of traditional insurance activities, shaped as the sum total of activities, are unfailingly directed towards the customer and the satisfaction of his/her needs. However, the Internet causes, on the one hand, a disintegration of the chain of value with the disappearance of the traditional intermediaries, and, on the other, the appearance of new configurations of the chain of value, with levels of vertical integration (Gual and Ricart, 2001).

The form of operation, therefore, of the company based on Web technology is different; the chain of activities is formed on the basis of the customer's decision. It is the latter who sets in motion the other activities to achieve insurance coverage. This inversion of the chain of activities is established in a new form of operation and,

therefore, in a new way of competition. A new form of operation where the customer has access to the product through his/her own initiative and, moreover, carries out part of the administrative work, for example, in registering personal data. In addition, this inversion gives the organisation flexibility and speed in quotations, characteristics which are considered fundamental for survival in this field.

The basic activity of the value-added chain is insurance underwriting, and the rest of the non-fundamental activities, such as accident management and some parts of risk management are areas which are especially suitable for subcontracting to other specialised firms. For example, the main scope of www.ineas.com in Europe or www.Generalife.com in the USA consists of developing and structuring products, as well as managing a distribution platform via the Internet.. The other specific tasks of insurance activity are subcontracted to specialist firms⁶. In short, subcontracting replaces more and more of the internal activities of insurance companies. However, this substitution brings with it operative risks arising from bad service. Up to now, this risk has been handled internally.

In addition, its technological structure and new method of operation bring with them a redefinition of transactions and the use of new capacities. In this sense, the production processes will be optimized, for example, with the improvement of administration, accident management and the obtaining, analysis and provision of information, which will allow the reduction of costs. In brief, it is possible to have an interactive administration of contracts and offer more flexible products; for example, via

⁶ Examples of specialist firms: actuary companies for the development and pricing of products, virtual brokers for the distribution of insurance, policy administrators to automate administration products; asset agents, banks for the management of assets, workshops, accident agents for post-sales services, etc.

the Internet and during the validity of the policy, the customer can change relevant data related to risk, exemption, change of address and communication and payment of accidents. A reduction of 10% in the costs of the payment of accidents and 30% in administrative costs have been estimated (Sigma, 2000).

Another of the contributions of the Internet is to substitute the habitual paper documents in insurance operations by electronic transactions with standardised formats. This facilitates the negotiation of documents, with prompt replies to claims and queries and in the negotiation of accident files. In short, the networks must contribute to improving the image and the response capacity of the entity providing the service. The US insurance companies Ecoverage and Esurance are totally virtual. These companies have simplified the purchasing process with prices below those of competitors and they have automated all the tasks of management, issue, invoicing, payment and accidents. It is a question, therefore, of obtaining competitive advantages, simplifying the production processes and, at the same time, increasing the level of service.

However, it is difficult to redesign the purchasing processes and innovate new products which are suitable for the medium. After-sales services also pose certain difficulties in their automation, especially accident reports which are accompanied by many explanations and decisions and involve people or firms outside the contractual relationship with the insurance company.

The above characteristics lead us to the fact that the virtual insurance company is formed with a structure of different costs. Table 2 shows the structure of costs and prices of an insurance company that operates in the Internet in comparison with a

traditional insurance firm. From the table, a higher rate of accident frequency can be seen, which shows that the e-insurance company incurs adverse selection problems.

Table 2.
Structure of costs and prices comparing the traditional insurance company with the electronic business

	Traditional insurance company	Electronic insurance company
Income from premiums	100	90
Payment of accidents	79	75
Frequency rate	79%	83,4 %
Costs	26	19.5
Cost rate	26,0 %	21,7 %
Total expenditure	105	105
Combined rate of accidents/costs	105 %	105,1 %
Technical profit	-5,0	-4,6

Source: Sigma

The problem of adverse selection raises the question of what kind of insurance is the most appropriate for production and distribution via the Net. Nevertheless, the operative costs are lower than in a traditional insurance company. The low operative costs are precisely what can make the initial investment profitable, once a large number of customers has been secured.

Another of its characteristics is its on-line distribution, which will be of advantage both in the conception of the product and in the efficiency of the mediation. The Internet is viewed as a passive sales channel and, as such, is considered ideal for commercialising standard products, principally mass insurance: car, multiple risk and home. In this context, the most suitable insurance is that which can be described and priced in few parameters: car, personal, multiple risk and home insurance. This is why simple, patrimonial products are those which are best suited to being commercialised via the Net. On the other hand, certain disadvantages arise in the case of products in which technical advice plays an important role and where it is not easy to compare services and prices, for

example the products of life assurance provision. In some products, principally financial ones with fiscal advantages, it is necessary to take proper legal advice, which impedes automation; there will therefore be a tendency to simplify greatly the products.

On the other hand, the Internet increases the efficiency of the process of transactions in the distribution area. With the Internet it is simpler to establish direct contact with customers; it is capable of improving communication with the client and reducing information and transaction costs. In this sense, some estimates, like those carried out by Sigma (2000, p.24), indicate that with electronic business the insurance companies can save around 30% in distribution costs.

However, in the e-insurance company certain difficulties or disadvantages arise. The principal one is that they have to attain a certain degree of fame and trust, the basis of the insurance business, if they wish to obtain a large share of the market. Insurance companies with an established commercial reputation enjoy a competitive advantage: there is a much greater degree of trust in them. The trademark is a fundamental asset for virtual firms, with a similar or greater significance or power than it possesses in the traditional economy. The corporate trademark gives credibility to the projects that the firm institutes and inspires confidence among its customers ... (Torrecilla, J.M., p.114, 2000).

The new participants of other sectors that possess a well-known trademark are those that will gain the confidence of the customer. So the established offerers must adapt themselves rapidly to the new market conditions in order to offer resistance to the new participants (Sigma; 2000, p.39). In the USA there are totally virtual insurance companies, such as Ecoverage or Esurance which demonstrate their weakness when they have to build

a trade image and obtain a sufficient volume of business. In order to overcome this weakness, the start-ups must increase their spending on advertising and marketing. The fact of already possessing a well-known trademark in the off-line world means an enormous saving in advertising costs, as opposed to the new companies, which are obliged to spend disproportionate sums of money in relation to their economic capacity if they wish to make themselves known and attract customers (Moranchel, R.; 2001). In 1998, the advertising expenses of the newly founded companies Etrade and Ameritrade rose to 54% and 40% of their income respectively. This is far greater than the equivalent spending of already established firms.

One obstacle worth mentioning is the availability of capital (Roure, J.; 2001). Start-ups are companies which introduce innovations in the market and which need to incur high initial costs before they are launched in order to develop and commercialise services with the aim of taking advantage of the technological opportunity and entering the market rapidly. For this reason, they normally require a considerable amount of capital to enable them to operate in a vacuum until the service has developed.

Other drawbacks are related to distribution. Many users consider that the Internet is not a safe distribution channel, because it is inadequate for carrying out large transactions and because of the sending of data via the Net, given that the safety of transactions or the payment of services rendered are aspects that have not yet been resolved.

Finally we must also emphasise as a further obstacle the lack of fidelity on the part of the customers, who have more and more opportunities to choose between new or better products. So it is difficult to establish new forms of loyalty with policyholders. Thus,

Porter (2001) argues that it is not possible to say that the costs of change have risen due to the Internet, but that, in some cases, they have dropped. Therefore, care of and permanent attention to customers must be a policy for technological insurance companies to follow.

5.- CONCLUSIONS

Finally, we can extract some of the most significant reflections which have been included in this study. The company theory has contributed information aimed at providing an explanation of the existence and nature of the e-insurance company. The e-insurance company has been understood as a contractual, organisational structure whose *raison d'être* is based not on establishing an opposition to the market but on considering it as a complementary mechanism which acts as a support in many of its transactions. While the market carries out part of its transactions it does not have to internalise them under one single organisation. Moreover, if it chooses to separate part of its non-fundamental tasks from its chain of value, by subcontracting them, these more specific tasks are not internalised either. In short, a prototype of flexible insurance organisation appears, where components are highly specialised, whether its own or subcontracted, and whose aim is to develop insurance activity with efficient criteria.

It is a firm which is determined by its organisational structure, shaped under the architecture of information and communication technology, which succeeds in automating many tasks in the area of administration, distribution and accident payment and therefore in establishing new routines. The fact that information and communication technology form part of the support infrastructure of the whole chain of activities provides a characteristic capacity for carrying out the process of insurance transactions. This allows it

to reduce costs and improve its services. We are, therefore, in the presence of an innovatory company which represents a change of paradigm in the competitive conceptions of insurance, taking into account the differences between it and the traditional company. A type of insurance organization where priority is given to innovation, which, after all, will be one of the basic variables of differentiation with regard to the competition.

Moreover, we have underlined the potentiality of the insurance product to be commercialised in the Net, given its characteristics of intangibility and service based on information. Besides, its success and potentiality will depend on the capacity to modify and innovate products, since the average consumer who operates in the electronic market mainly demands differentiated products. Also the low frequency in transaction and the capacity to make the product reach the client in suitable terms of time and costs determines the existence of the on-line insurance company.

However, there are also disadvantages, the most important one of the virtual company being its lack of reputation and trust, basic parameters on which the insurance company is based. Moreover, the Net is thought to be an insecure medium for carrying out transactions and making payments on-line.

In spite of the advantages, the newly-created firms, start-ups, have not proliferated in Europe like other companies in the financial sector. The model of the virtual company still faces challenges to achieve a certain degree of success. This will be linked to the capacity to generate added value, so the system of attention to customers must be improved, valuing their preferences and buying habits and trying to design specific products which

adapt to their necessities by means of new insurance differentiated from that of the traditional insurance companies and with lower prices.

REFERENCES

Alchian, A. y Demsetz, H (1972): "Production, Information Cost and Economic Organization", *The American Economic Review*, núm. 69, págs 777-795.

Arrow, k (1974) *The limits of Organizati3n*, W.W. Norton & Company, New York.

Bento, R. F. y Bento, A. M. (1996): "A framework for analysis of the use of the World Wide Web for business", *Paper of 1996 conference of information systems. Association for Information Systems*, Phoenix (USA).

Bloch, M. Y Segev, A (1996): The Impact Of Electronic Commerce on de Travel Industry. The Fisher Center for Information Technology & Managemen. Walter Haas Schooll of Business. University of California.

Brown J. R. Y Goolsbee A. (2000):"Does the Internet Make Markets More Competitive?Evidence from the Life Insurance Industry. Çharvard University. Reserarch Working Paper Series núm. 7.

Escobar modesto (2000):«La empresa e-business: transformaci3n, modelo de gesti3n y planificaci3n estrat3gica» *Economía Industrial*, NUM. 331, págs 101-110.

Fernández, E.; Montes, J. M.; Vázquez, C. J. (1998):"Tipología e implicaciones estrat3gicas de los recursos intangibles. Un enfoque basada en la teoría de los recursos", *Revista asturiana de Economía -RAE-* núm. 11, págs. 159-182.

Fox, N.J. (1993): "Theories of the firm: contractual and competence perspectives", *Journal of Evolutionary Economics*, núm. 33, págs 127- 144.

Fulk, J. Y Desanctis, G (1995) «Electronic commniation and Chaging Orgaanizational Formas» *Organization Science*, volumen 6, n´mero 4, julio-agosto, págs 337-448

Gual, J. Y Ricart, J.(2001): Estrategias empresariales en telecomunicaciones e Internet, Madrid, Fundaci3n Retevisi3n.

Hiltz, S. R., Y Hohanson, K (19990): «User Satisfaction with Computer-mediated Comujnication Systems». *Management Science*, volumen 36, número 6, junio, págs 739-764.

Jimenez Quintero J. A., Aguila Obra, A., Padilla Meléndez, A. (2000): "Implicaciones estratégicas del comercio electrónico basado en Internet: modelos de negocio y nuevos intermediarios", *Información Comercial Española*, nº 783, enero-febrero 2000, pp. 63-78.

Koh, C. E. y Balthazard, P. (1997): "Business use of the World Wide Web: a model of business Web usage", *Papers of 1997 Americas Conference of Information Systems*. Association for Information Systems. Indianapolis (Indiana, USA).

Lorraine Bompard y otros. (2001) *On E-Insurance Strategy*. McKinsey & Company, INC and Goldman Sachs International.

Menguzato, M. y Renau J.J (1995): "Estrategia de empresa y teoría de los costes de transacción", *Información Comercial Española*, núm. 746, octubre, págs. 7- 24.

Moranchel, R. (2001): "Las nuevas empresas de la Sociedad de la Información, págs 381-388), *Revista del Instituto de Estudios Económicos*, número 1 y2 .

Pablos, C. y Montero, A. (1998): "Relación de la arquitectura de la tecnología de información con la estructura organizativa en el sector asegurador", *Dirección y Organización, CEPADE*, núm. 22, págs. 121-130.

Porter, M: E. (2001): "Strategy and the Internet" *Harvard Business Review*, número 79 (3) paginas 62-78.

Quelch, J.A. y Klein, L.R.(1996):« The Internet and International Marketing» *Sloan Management Review*, primavera, pp 60-75.

Rappa, M. (2000): "Business models on the Web", <http://ecommerce.ncsu.edu>.

Rayport, J.F. (1999): "The truth about Internet business models", <http://www.strategy-business.com/briefs/99031> (01/05/2000).

Roure, J. (2001):"Creación de empresas tecnológicas: retos de gestión y déficit de planteamiento. *Economistas*, núm. 88

Sarkar, M. B.; Butler, B. y Steinfield, C. (1997): "Intermediaries and cybermediaries: a continuing role for mediating player in the electronic marketplace", *Journal of Computer Mediated Communication*, Vol. 1, nº. 3.

SIGMA (2000) : "El negocio electrónico en el sector del seguro: necesidad imperiosa de adaptarse y oportunidad de renovarse" nº. 5.

Torrecilla, J. M. (2000):«La tendencia de la innovación empresarial en los próximos años» *Economía Industrial*, Núm. 331, págs 111-120.

Wilianson, O.E. (1975): *Markets and hierarchies: Análisis and antitrust implications*, Nueva Yor, Free Press.

Wilianson, O.E. (1979):"Transaction-Cost Economics: the Governance of Contratual Relations", *Jounnal of Law and Economics*, volumen 22 número 2.

Wilianson, O.E. (1985): *The Economic Institutions of Capitalism*, The Free Press.