

Electronic distribution in a more liberalised market will enable more cross border transactions.

This will first have an impact on travel insurance and other types of standardised high frequency insurance. For other types of insurance a number of barriers towards cross border trade still persist. Differences in culture and traditions for design of an insurance policy increase the transaction costs. It may also be more difficult to establish the needed trust between insurer and insurance company without any personal communication. Many types of insurance services build on a long term relationship between insurer and insurance company, and involve high initial costs, for instance related to physical inspection of assets or medical examinations. In these cases, it is much more complicated to operate on a distant market without physical presence, and growth in cross border activities must be expected to develop more slowly.

Another important barrier is related to rivalry between different distribution channels. In the US insurers get half of their revenue from their agents, and the principal factor in the reluctance to commit to the Internet as distribution channel is the fear of offending them (A. S. Friedman, 1998).

Although cross border trade will become widespread only for certain types of insurance services, it will contribute to internationalisation in all parts of the industry. Electronic commerce will reduce the barriers of entry on new markets, as electronic delivery will help to reduce the costs of establishment of a local distribution network - even if some local presence will still be necessary.

MAPPING INSURANCE TRANSACTION STREAMS

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INTRODUCTION:

CONFIDENCE, BRAND AND INSURANCE

It can be noticed that there is a lack of confidence in on-line products and services (Choi, et al. 1997). In order to respond to aspects related to security, technological tools have been developed such as cryptography, firewalls and digital certificates.

The lack of confidence stems, in part, from time asymmetry and information asymmetry. In effect, even if Internet does reduce the time for some transactions to be completed, most real world transactions require some form of movement of goods or services, thereby introducing time asymmetries in the process of exchange of assets between transacting parties. Time asymmetry brings the notion of risk (perceived or real) to each of the agents involved in the transaction who must invest resources before receiving a return. Information asymmetry also affects the on-line market; in electronic markets the physical product is not examined, only a representation of it. This situation imposes certain limitations on knowledge of the product and, therefore, uncertainty regarding its quality or that of the vendor.

Confidence is pervasive in all the client relationship process. The notion of confidence implies the deposit of resources (money, time, personal information) into the hands of another party for use for his/her own benefit, or of the buyer, or both. Without the appropriate level of confidence, the exchange of information between individuals and organizations will be limited. There are three essential aspects related to confidence: to be led to a selection in which the end is foreseen as a happy or a painful event, to realize that the event depends on the behavior of the other party and finally to perceive the intensity of the negative event superior to that of the positive one.

The management of confidence has been historically affected by brand-name recognition. In the nonvirtual world, the mere presence of brand name is sufficient to create confidence in relatively unimportant decisions, as for example the purchasing of little amounts of products or repetitive purchases, and in generic products of easy specification. In effect, brand name recognition performs different functions:

- a) An identification function: the brand identifies the product according to its main characteristics. It also leads to a specific configuration of attributes. Therefore, the brand itself constitutes valuable information of the characteristics related to a specific product offer.
- b) A reference function: the brand helps the buyer to identify himself, brand contributes in structuring and organizing the market offer.
- c) A guarantee function: the brand is a public commitment of quality and performance. It is a given promise. It assures the permanence of quality that is expected of it.
- d) A personalization function: the selection of certain brands allows individuals to place themselves in relation to their desired social status. In making a selection a person shows his desire to be different from his peers or, on the contrary, to integrate himself.
- e) A playful function: it corresponds to the pleasure that is experienced when purchasing. The presence of multiple brands makes certain buyers experience a feeling of true animation and results in a source of stimulus.
- f) A practical function: instead of having to repeat a complete decision process on each occasion, the brand facilitates the memorization of previous selection processes and the conclusions of consumption experiences. The brand is in this sense, a summary of information related to past purchasing experiences. Taking into consideration that the

brand name is memorable and easy to recognize, it gives the buyer the possibility of following repetitive processes and, as a result, generates confidence in the client.

When such confidence does not exist, users try to compensate its lack with endorsements, licenses and insurance. In the nonvirtual world these practices are used in important transactions (with high monetary value) or to complement the brand. However, in the virtual world we can see how these endorsements and insurance are used even in small transactions without greater importance nor volume. Confidence management in the virtual world is bringing about a fast and sustainable growth of the insurance role, a development that, in turn, goes against global brands. In this article we will analyze new models of confidence management .

TRANSACTION STREAMS

The simplest representation of an on-line transaction involves at least three roles: buyer(customer), seller (supplier) and shipper (distribution service). A market transaction corresponds to a finite number of interaction processes between market participants in various roles. The goal is to initiate, arrange and complete a contractual agreement for exchanging of goods and services in the most efficient manner. The involved interaction processes are grouped into classes and form the phases of a market transaction (Schmid and Lindemann 1994).

Before a transaction is completed five processes need to be enacted: player selection, contract condition setting, contract signature, contract storage and transaction action. We will refer to them as the transaction processes (Subirana 1998). These transaction processes can be represented graphically as it shows figure 1:

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Underneath each process many related actors take part and create more relations and transactions as well. We have passed the traditional model to a series of transactions streams, in which more than one organization controls the first four transaction processes.

In this flow of transactions, which operates so differently from the real world, users are required to compensate the lack of confidence with endorsements, licenses and insurance. For that reason, the lack of effective ways of managing the need for endorsement, security and insurance is a well recognized barrier to the full acceptance of transactions on the Internet (Tapscott 1996) (Schwarz 1997). One area in which transactions are becoming more streamlined is in the insurance and endorsement of the signature and contract storage (Hodges 1997)(Markey 1997).

INSURANCE TRANSACTION STREAMS

First we will study the application of the 5 transaction processes to insurance function. Then we will analyze under the view of transaction streams, the electronic representation of endorsements, licenses and insurance policies, in order to elicit how the implications of the insurance industry in the electronic commerce allow the creation of an atmosphere of confidence between insurer and the insured, getting a closer and richer client/insurer relationship.

Player selection involves the selection of the economic agents that will be involved in the transaction. An insurance contract represents an agreement between the service provider and the party insured. It can also represent an agreement among three parties, the surety, the obligee and the principal. This contract is called a policy and specifies the obligations of the involved parties. The policy covers damages inflicted by the insured upon a third party if



Figure 1 Transaction processes, Source: the authors

the damages were caused by an accident or occurrence. The insurer does not relieve the insured from responsibility for committing malicious acts.

The contract condition setting refers to the process by which the involved parties negotiate the details of the action to be performed. When an insurance policy is requested, insurance providers calculate the risk to be assumed by the insurance policy and fix the premium at an adequate level to reflect this risk. Insurance providers will need to assess a service provider about procedures and past behavior to determine risk and to set a premium. Policies require an assessment of the assumed risk and settling claims requires judgment, neither of which are easily automated. In other words, policy purchasing transactions are, in general, too complex for current electronic market models.

Contract signature refers to the binding step in the process in which the transaction players agree on a course of action that clarifies how the transaction activities will be performed. This can be a short and standard agreement or a long, detailed and customized contract. Policies are agreements certified by the signatures of the parties. The electronic representation of a policy will include the following information:

1. The names of the parties: The name of the insurance provider, the name of the service provider and a description of the obligee(if needed)
2. The subject of the insurance and the insured risks.
3. The period during which the policy will be in force
4. The limits of liability (an individual limit, an aggregate limit of liability or possibly no limit in the cases of endorsement or license)

Licensing and endorsements are mechanisms that may be used to gain confidence in the service provider. A license is a credential that indicates that a service provider is legally authorized to provide a service. It indicates that the service provider has

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been found to meet certain minimal qualifications required by law, and that is subjected to regulations and sanctions if it violates the law. An endorsement provides assurance that a service provider meets more rigorous requirements determined by

the endorser, and usually provides information about the quality of a service provider. The confidence in an endorsed service provider depends in part on one's confidence in its endorsers. Endorsements do not provide compensation for damages incurred while interacting with service providers. They provide a mechanism for clients to better evaluate and reduce the risk involved in dealing with service providers. Licenses proving the legal authority to offer a particular service and require of the service provider to follow certain policies of protection of its clients. The concept of an insurance policy, licensing and endorsements are related, differing only in the limits and source of compensation in the event of a loss. Insurance policies provide a contractual responsibility to the insurance providers.

Before a transaction contract is signed, an insurance credential is granted to a server after knowing the requirements imposed by the server, who issues the credentials. Insurance credentials can be defined as proxies. Furthermore, proxies can be set in such a way that all the transactions realized by a given organization are endorsed and certified by an independent and trusted firm.

The verification of the insurance credential shows an example of how transactions streams are implemented. When an insurance credential is received from a service provider, the client validates the credential in two steps. First, the proxy is verified cryptographically. It may require further interactions with others servers. Second, the information presented in the proxy is extracted and compared against the user's and application's policy for server selection. Furthermore, the service provider must authenticate itself to the client using the authentication protocol used by the system (Lai, et al. 1997).

INSURANCE INDUSTRY CONFIGURATION

Nevertheless, the presence of insurance credentials should not by itself improve confidence in a service provider. This confidence must depend in part on the

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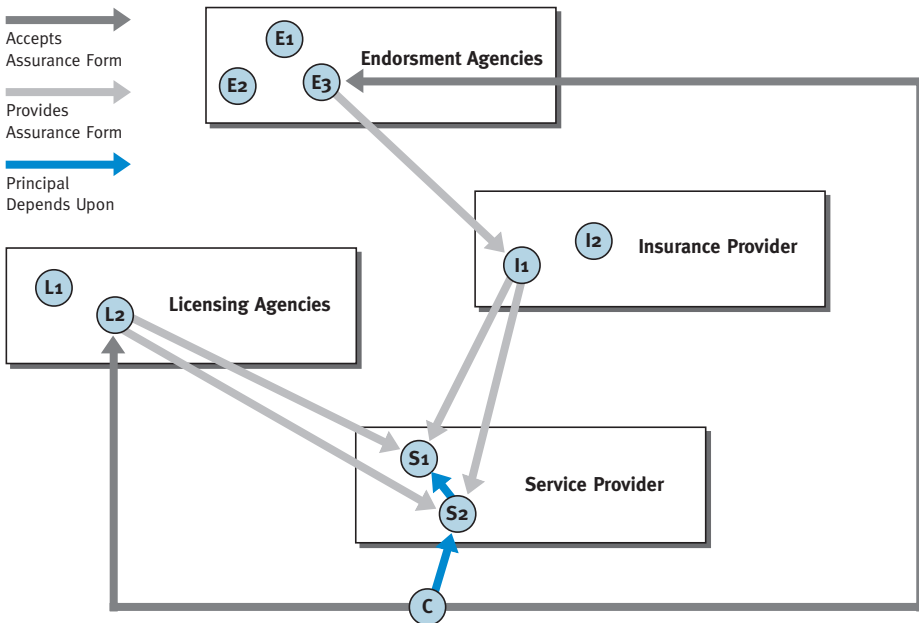


Figure 2 A Network of Trust Relationships, SourceLai et al., 1997, p. 429

directly in the insurance provider, but will accept the endorsement of E3, an organization that rates insurance companies. Client C will also find that service providers S1 and S2 are licensed by licensing agency L2, indicating that L2 has found each server competent in offering its services. The licensing authority L2 has not been endorsed directly, but is recognized as the appropriate licensing agency by C (Lai, et al. 1997).

In this way a new model of confidence' management is configured. This necessity of confidence is generating a fast and sustainable growth of insurance, with the effect of rendering less important the value of the global markets

CONCLUSIONS

This need for confidence is generating a rapid and sustainable growth of insurance, potentially diminishing in importance the value of global brands. While the booming of companies constituted as confidence drivers, as for example Bizrate.com and @guard is appreciated, licenses, endorsements and insurance as mechanisms to increase confidence in the system are also needed.

confidence in the endorser or insurance provider. An extensive network of relations can be activated to create confidence. Figure 2 shows an example of the network of company roles that are emerging.

In this example, client C requests service from service provider S2. To provide this service, S2 subcontracts to service provider

S1. C's confidence in the composite service depends on the assurance provided for both S1 and S2. To improve customer confidence, S1 and S2 obtain a liability insurance policy from insurance provider I1. As long as C has confidence in I1 it is assured that C will be compensated in the event of damages caused by S1 or S2. In this example C does not have confidence

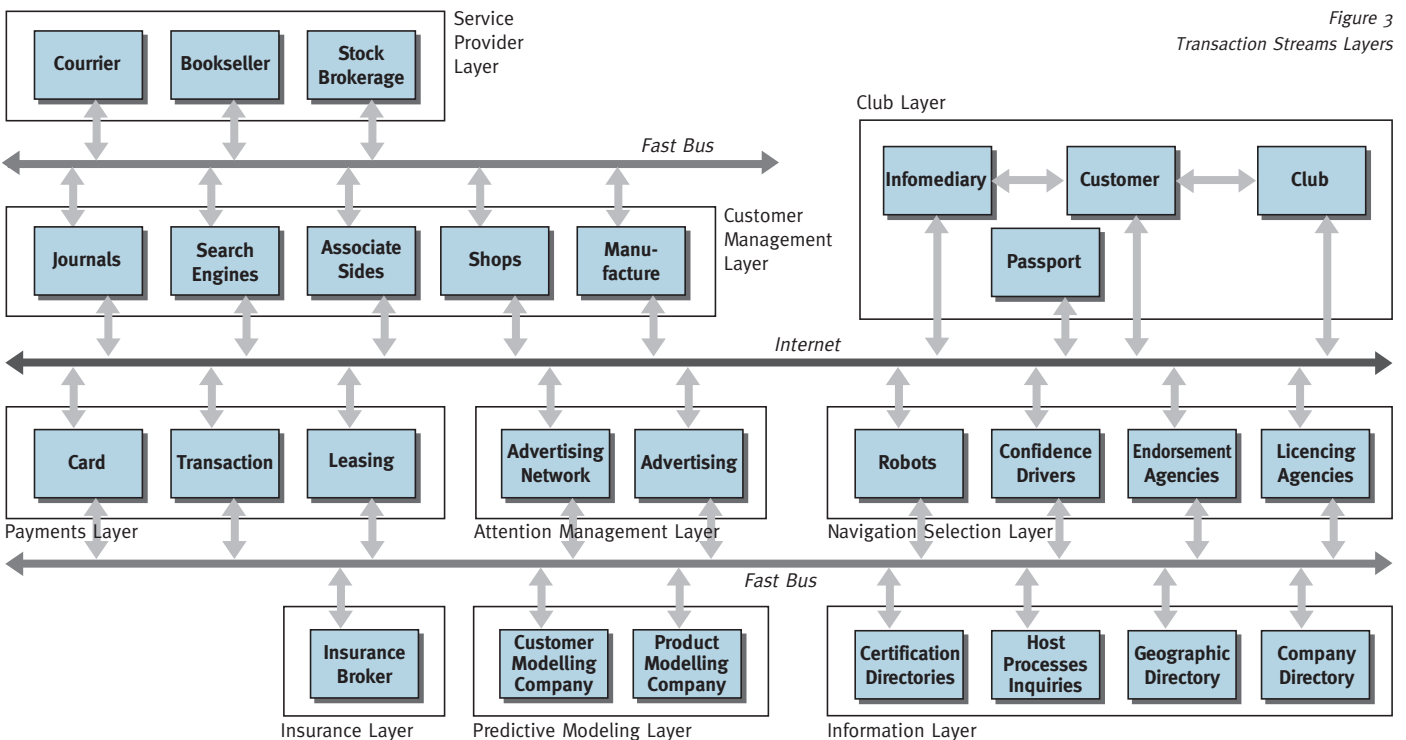
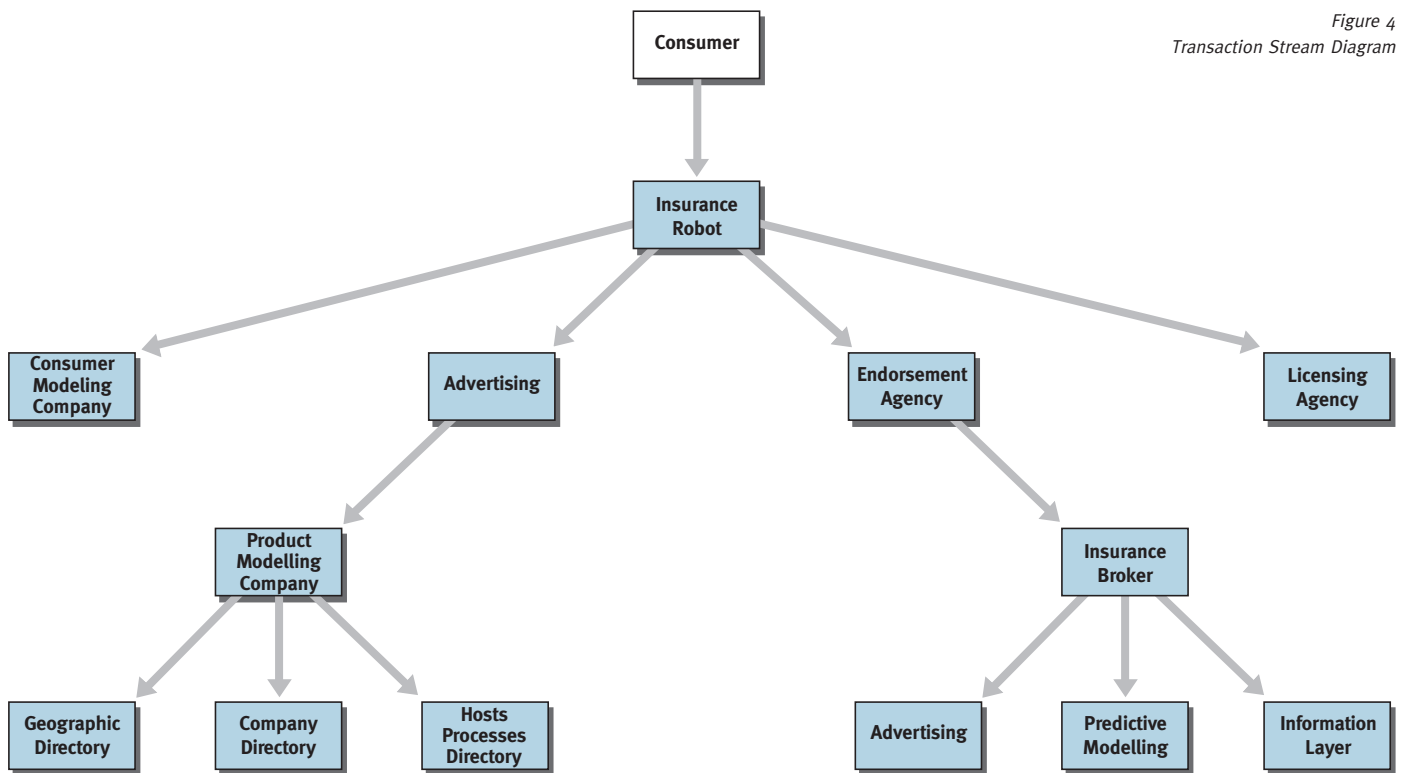


Figure 3 Transaction Streams Layers

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Figure 4
Transaction Stream Diagram



In a stable system built on these contributors to the confidence management model, it is clear how the insurance industry allows the formation of a trustful ambiance between insurer and insured, with the effect of creating a huge net of transaction streams, and ultimately facilitating a closer client/insurer relationship. Through this process a new model of confidence management is being formed, and thus, the appearance of a new role is anticipated: the role of the Insurance Agent.

Figure 3 illustrates the infrastructure underlying transaction streams. As can be seen, many players are involved in simple, routine transactions. Nine layers have been identified: customer layer, customer management layer, service provider layer, payments layer, attention management layer, navigation selection layer, insurance layer, predictive modeling layer and information layer. To see how these layers are being called into action, Figure 4 provides an example of the cascading effect of transaction streams. In the example we have plotted the players involved when our example user “clicks” on an insurance robot to purchase an insurance product.

The robot itself, calls a set of licensing agencies and endorsement agencies. These in turn search for insurance brokers that, through third-party predictive modeling and endorsement agencies, assess what is the risk premium that should be offered. The robot then collects all the answers and provides the aggregated response to the user. Observe that insurance brokers nurture their systems with information provided from the information layer companies in combination with predictive modeling results. This enables an optimization of their hit-ratio while minimizing risk. The transaction stream diagram also illustrates transaction streams related with advertising. In an attempt to capture attention, advertising networks maximize their advertising effectiveness by leveraging audience profiles with predictive modeling techniques. Observe that the information layer is similar for the advertising and insurance streams while the modeling techniques are of different nature: the former is geared towards managing attention while the latter results in insurance quotes. In both cases, click-yield management techniques are required to optimize the available “click inventory”.

The future will belong to those companies that can successfully add value in the wave of transaction streams. A secure transaction ownership may only be possible when ownership occurs at the transaction activity level. Transactions on the Internet will evolve into an ever increasingly complex environment where management will struggle to capture future profit arenas. The Internet provides tools to facilitate the streaming process. The Internet enables different transaction participants to establish protocols to perform each of the five basic transaction components in a myriad of different ways. The insurance landscape can provide means of managing confidence both from user-centered and provider-centered views. Insurance providers should seek opportunities in linking their products and services with transaction stream layers. Ultimately, insurance providers may perform many of the current brand roles.