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The development of cross-border economic relationships between firms in border regions

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The INTERFACE model of cross-border economic relationships

Abstract

Central question of this paper is what influence a state border has on the development of cross-border economic relationships in border regions. A theoretical model is proposed to explain the pattern and the decision-process of bilateral international economic relationships: the model of INTERNATIONAL Formation of Autonomous Cooperation between Entrepreneurs (INTERFACE). The INTERFACE model distinguishes between different phases of relationship-building, namely contact (the acquaintance), attraction (the choice for the partner), interaction (the negotiation about the conditions), transaction (the realization of the agreement/contract) and relationship. This relationship-development model is used to describe the process of the development of cross-border economic relationships and to explain the number and success of cross-border economic relationships. The model is empirically tested for a large sample of firms in two Dutch-Belgian border regions. The findings of the model suggests that the action-space of the firms, in terms of informal embeddedness and economic relationships, is spatially limited by the presence of the border. The factors of similarity and trust between the partners are found to be the most important determinants of success of cross-border economic relationships. The dimensions of expectations on the discrepancy in business conventions, the expectations on the success of economic relations in the neighbouring country and the strictness of the financial-economic terms of the relationship play a major role in determining the number of cross-border economic relationships. This is defined as the "mental distance" effect of borders.

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The INTERFACE model of cross-border economic relationships

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Introduction

The question central to this paper is defined as follows:

What is the economic-geographical influence of the state border upon the number of economic relationships between enterprises in border regions and what explains the successful formation of these cross-border economic relationships?

To answer the research question this paper will present a descriptive model that represents, in separate stages, the process of the development of cross-border relationships between two enterprises from two different countries. Economic relationships¹ are essential to the individual company. A business needs a (number of) stable client(s) and/or supplier(s). Economic relationships, moreover, offer businesses the possibility of outsourcing certain parts of the production process, thereby achieving cost savings. The point is therefore not so much whether a company has economic relationships, but how these are structured and spread in space. The degree of clustering of business relations (and networks) is generally regarded, in economics, as an indication of flexibility and dynamism (Boekema and Kamann, 1989; Ratti, 1993a). Economists point to the influence of close-knit networks on the creation of a stable environment, and the possibility of responding in concert to rapidly changing market demands (see, e.g. Porter, 1990; Storper, 1993). Finally, recent literature also refers to the improved opportunities for developing and diffusing innovative activities as a consequence of economic relationships between companies (Oerlemans, 1996).

The European Commission aims principally at these positive effects the economic relationships may have on the *cross-border* interaction and *cohesion* between the economies of the member states and (border) regions in Europe. National borders in Europe have often forced a rupture between neighbouring - and previously often closely related - regional identities in many such border regions. Border regions are generally nationally oriented, giving only little attention to 'the other side'. The emergence of the European Union has shed a new light on the economic development of border regions. The idea, then, is that border-regional economies could benefit from the increase of the amount of cross-border networking. The formation of economic relationships could lead to a more cost-effective and efficient spatial division of employment (Church and Reid, 1995; Nijkamp, 1993ab; Von Malchus, 1975). In the so-called INTERREG programme, the commission has explicitly declared itself in favour of the stimulation of economic relationships across the borders (European Commission, 1990). The policy aims at 'providing stimuli for the foundation and development of co-operative networks across internal borders, and to link these networks to larger community networks.' (*idem*, 1990).

Recent empirical research in border regions at the Dutch border has shown that cross-border co-operation in border regions, as for the international co-operation between medium-sized and small businesses, should not be overestimated (Dagevos *et al.*, 1992; Corvers *et al.*, 1994ab; Van den Tillaart *et al.*, 1994; Van Houtum, 1994; Van Houtum *et al.*, 1994ab, 1996). Despite the research already conducted, it must be concluded that the role of the state border has remained unclear from the empirical point of view. Moreover, it has not yet been examined in a systematic manner which mechanisms lie at the source of the formation of bilateral cross-border economic relations. A connection with the theory concerning the internationalisation process among companies and the organisation of transnational or border regional networks is seldom drawn. Verification of the - mostly voluntary - administrative concepts in the light of empirical reality is all too often neglected. The present study aims to achieve a better understanding of the influence of the border in the economic exchange patterns in these border regions. It makes an effort to indicate the 'blank spots' on the map of the formation of cross-border economic relationships in border regions, where possible, to fill them in.

This study will focus on the explanation of the number and success of cross-border economic relationships between

¹ Economic relations here are not those economic activities executed by the company itself, but those which involve another person or company. The prerequisite for the existence of economic relationships is that the co-operation between the two legally autonomous, separately constituted business organisations has continuity. This means that there exists more than a one-off co-operation between the two companies to produce or deliver a specific product or activity (see section 1.V below).

companies in the border regions of the Netherlands and Belgium, to wit, Zeeland Flanders and Central and North Zeeland on the Dutch side of the border, and Gent/Eeklo on the Belgian side. The theoretical model that is developed is concerned with the organisational form that the transaction costs theory (Williamson, 1975, 1985, 1996) regards as the form intermediate to export and foreign direct investment, and which the international translation of the Swedish network theory (Johanson and Mattsson, 1987, 1988) regards as the essence of economic markets - economic relationships. The model deals with the question how cross-border *contacts* may grow into or lead to successful cross-border economic *relations*.

The theoretical model is described in the first section of this paper. The second section deals with the hypotheses that are formulated on the basis of the model. The results of the verification of the hypotheses are described in section three. In the fourth section the results are confronted with the theoretical hypotheses. The paper will end with the conclusions of this confrontation in section five.

1. The INTERFACE model

Internationalisation

In principle, internationalisation is nothing more, and nothing less, than the territorial expansion of a firm's activities. Basically, according to Nordström (1991), it is a simple concept. The company enters new areas to exploit its specific advantage(s). Two reasons conspire to make this difficult theoretically.

Firstly, by internationalising part(s) of its activities, a company crosses the state border and enters another state and culture. In reality, it might not be such a straightforward passage as might seem at first glance. All kinds of entrepreneurial, managerial, and knowledge-related constraints and perceptions enter into play.

Secondly, different modes of internationalisation exist, which require different strategies and decisions (Louter, 1993). The theories presented in the literature on internationalisation are in essence theories about the firm, not theories about the development of economic relations. The question of the development of a relationship between two companies brings new elements into the study of the internationalisation process. Now, matters such as attraction and negotiation between the two companies emerge. In fact, there are few theoretical approaches available that treat the entire process of relationship-formation exhaustively, from the beginning to the success of a cross-border economic relationship between two companies. In the model I present in this paper, the different theories dealing with (parts of) this development are included. For an extensive overview on the theories of internationalisation see o.a. Buckley, 1989; Dunning, 1989; Young, 1987; Leonidou *et al.*, 1995, 1996; Van Houtum, 1998.

Rationality

I depart from the usual assumption in economics that actors are 'boundedly rational' in their actions (cf. Simon, 1961). It is important, however, to note that the boundaries of rationality are not only physical but also mental. The maximum capacity for gathering and processing information is thus not used entirely because there are, on the one hand, *physical boundaries* to this capacity ('the traditional principle of bounded rationality') and, on the other hand, *mental boundaries*. These last should be taken to mean the limitations of the *representation of reality* in the mind of the actor. Reality is experienced not objectively but subjectively, at most inter-subjectively. It is assumed that this subjective mental model of physical reality provides an important input for the actor's rational frame of thinking.

A second supposition is that it is possible to enhance the utilisation of the actor's maximum capacity of gathering and processing information through a *learning* process, both from others and from his own experience. The actor 'matures' by linking new information to already existing structures in his pattern of thought. This 'maturing' may result in a modification of his mental representation of reality. In short, the context rationality is mentally and physically bounded, and can be utilised to greater advantage or expanded through a learning process.

Phases in the development of cross-border relationships

I distinguish the following phases in the development process of a cross-border relationship: *contact*, *attraction*, *interaction*, *transaction*, *relationship*, and *success*. Together, these stages compose the hereafter called INTERFACE model. INTERFACE is an acronym for *INTERNational Formation of Autonomous Co-operation between Enterprises*. The model is concerned with the construction of international economic relationships between two independent companies. The INTERFACE model is represented in figure 1.

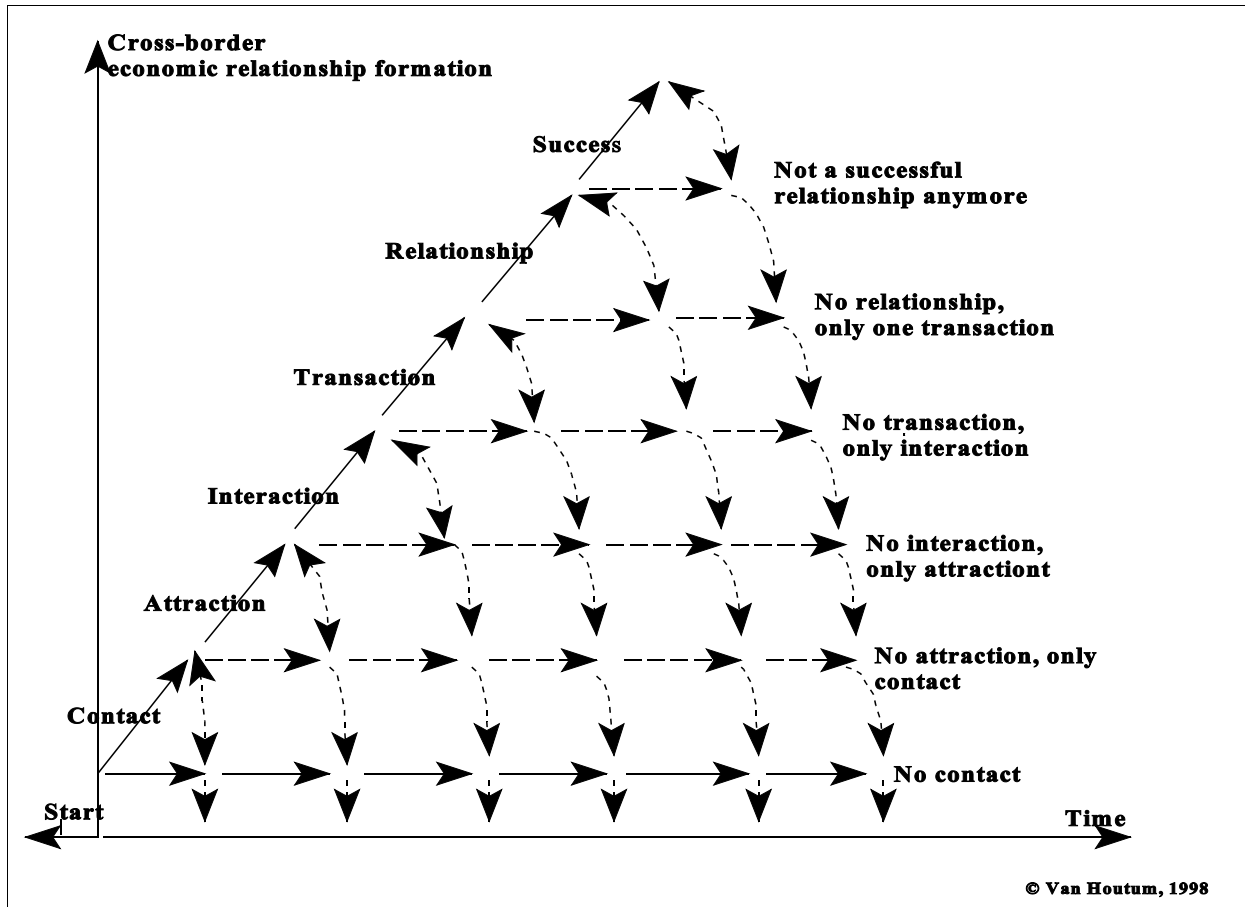
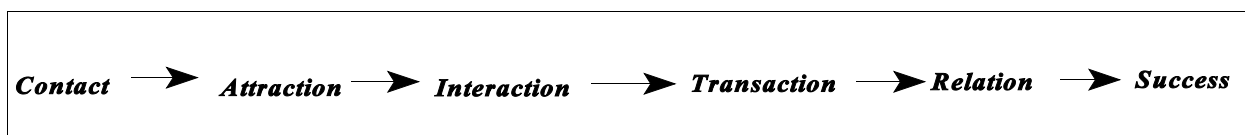


Figure 1 - The INTERFACE model

In this scheme, it is illustrated that the developmental potential of a professional contact, once established, with a company in the neighbouring country may vary considerably. This is associated to a great extent with the preference of the other company and of the exchanges between the two. Each step towards a subsequent stage in the formation of a relationship is, in fact, a dichotomous variable: yes or no.

The INTERFACE model, as presented here, offers a surrounding framework. This paper describes the construction of the model, and how it can be used to gain insight into the explanation of the economic interweaving of companies in the neighbouring country. However, it would go too far to test the entire model, in all its aspects, for its relevance in one single study. In the present study, the following delimitations have been adhered to. Only those enterprises who, in the path of their development, have factually entered into a successful relationship are analysed. This choice makes it possible to gain a first important insight into the meaning and content of the various stages of the model. In the remainder of this paper the INTERFACE model may be taken to imply the linear developmental process from contact to attraction, to interaction, to transaction, to relation, and success (figure 2).

Figure 2 - The INTERFACE model in this study



I should remark here that the INTERFACE model is not a causal scheme. Moreover, it is not a deterministic scheme either. Divergences and overlaps may occur. The possible variations are not, however, submitted to closer examination

in this study. The INTERFACE model is a stage model, indicating the most likely course the development of a bilateral cross-border economic relationship will follow.

In the first instance, the model applies to companies in all sectors and of all sizes. But, since about 98% of all firms in a country or region are small and medium sized (<250 active persons), both the theoretical and the empirical analysis *de facto* apply principally to small and medium-sized enterprises. By means of the INTERFACE model this study focuses primarily on the examination of the *formation* and the eventual success of *cross-border relationships between firms*. The examination of these topics coincides with two components of the problem central to this paper, being:

1. The detection, for the companies that do have economic relations, of the factors that determine *the number of cross-border economic relationships*
2. The analysis of a relationship in particular for each company with economic relations in the neighbouring country. On the basis of the determinants in the INTERFACE model it will be determined how the economic relationships have been able to become *successful*.

Below, the determinants for the various stages of the INTERFACE model are explained more extensively.

I. Contact

The contact stage is of great importance in the INTERFACE model. Without contact, no relationship can be developed. The contact stage determines where and how two entrepreneurs of different nationalities meet. Furthermore, it determines whether the contact is pursued or stops at the meeting of the two entrepreneurs. If the meeting has a sequel, the development process of a relationship between the two entrepreneurs is also given direction and content during the contact stage.

Just a contact, however, does not suffice to start an economic transaction/relationship. At least one of the parties involved must have the intention, latently or obviously, to develop economic relationships in the neighbouring country. An encounter without (latent) *intentions* (cf. Fishbein and Azjen, 1975) in at least one of the entrepreneurs will not lead to an economic relationship, but remains a mere encounter, which may at most influence or strengthen the image of the entrepreneurs concerning entrepreneurs in the neighbouring country. The contact I am speaking of, however, is an encounter between two entrepreneurs in which, at least one of whom is aware, or thinks, that there are business opportunities in the other country.

a. Personal and professional networks in the foreign country

It is important to the analysis of the formation of cross-border economic relationships to recognise that economic interactions between two entrepreneurs are embedded in their mutual social and professional circle of acquaintances (Granovetter, 1982, 1985; Grabher, 1993). By social and professional acquaintances, I mean the informal contacts with which no exchange agreement has been established. The network theory that regards enterprises as embedded in a network of relationships, combined with the transaction costs theory, which regards enterprises as structures for transactions, provides an image of an enterprise that is socially embedded in a great number of contacts and socially embedded in a great number of economic relationships, in which it ideally seeks to achieve those relationships that will produce the necessary transactions in as reliable, good and economical a manner as possible (Johanson and Mattsson, 1987, 1988). The establishment of such economic relationships then leads to possible contact points with other networks. Moreover, the (new) contacts and relationships direct the image of the action space in question and embed future actions. Thus, where it concerns cross-border contacts for small and medium-sized companies, regionally closed network structures offer little solace. The border, in such cases, divides the regional networks. It is important to link the regions, so that new information and resources can be obtained (see also Giaoutzi, Suarez-Villa, and Stratigea, 1993b).

The geographical distribution of the informal network provides a useful indication of the stream of information and resources between actors in different regions (see Boissevain, 1974). A number of investigations have already established that there are a smaller number of contacts between people from different countries, even for people that are active at short distances from each other (see, e.g. Passchier *et al.*, 1981; Cramer *et al.*, 1984; Dagevos *et al.*, 1992; Steiner *et al.*, 1993; Ratti, 1993b; Van den Tillaart *et al.*, 1994; Corvers *et al.*, 1994, Van der Velde *et al.*, 1995, 1996, 1997; Van Houtum, 1994, 1997; Van Houtum *et al.*, 1994ab, 1996).

Two different types of networks are distinguished in this paper:

1. The personal network in the home country versus that in the neighbouring country

This refers to the *number* of personal acquaintances of an entrepreneur in a certain region. This can be friends, family members, or other personal acquaintances. They are, in any case, acquaintances that are not professionally involved in the enterprise. A social network that crosses the border may be considered advantageous to the development of

economic relationships.

2. *The professional network in the home country versus that in the neighbouring country*

What applies to personal acquaintances also applies to professional acquaintances. Professional acquaintances are persons that are associated with the company of an entrepreneur due to their profession. Under this category fall, for example, clients, colleagues, suppliers and informal investors.

b. The entrepreneur's relationship preference

One may suppose that some actors are more open to contacts and/or more active in seeking out contacts than others. This is a matter concerning the strategic preference of the entrepreneur/enterprise. The *entrepreneur's relationship preference* is an important determinant in the contact stage. In the first place, it appears to be highly dependent on the personal characteristics with regard to affiliation/contact. Some entrepreneurs may, for instance, be searching for projects with high profits and are prepared to live with the higher risks. For others, durability and security in the economic relationship are of the utmost importance. Another context is provided if contact is experienced as a threat or potential competitor, or if the entrepreneur's orientation is mostly restricted to the company, region or country. One may imagine, therefore, various types of preferences with regard to relationships. In the appendix the different preferences are mentioned and are combined by means of a factor analysis.

c. Mental distance

At the surface level, the image both entrepreneurs have of each other is an important element (Duck, 1977; Levinger and Snoek, 1972, Levinger, 1980). To see what the distance between two regions is, it is not sufficient to measure (estimations of) road distance or travel time; one must also measure the mental distance between them. Two people who live at a mutual distance of 20 metres may be at a mental remove that is greater than that between two people who live at a distance of 20 kilometres. This image may influence the interaction pattern between the two.

The concept mental distance does not merely deal with the culture of a country, but with *the entire range of business conventions* in a country that matter to a company. Michael Storper most notably uses the term *conventions* in his analyses of co-operating enterprises in technological districts, meaning the taken-for-granted mutually coherent expectations, practices, routines and agreements, and their associated informal or institutional forms (Storper, 1993, 1997). Storper defined this set of conventions, which are of crucial importance in the creation of community feeling, as a (local) world of production. Concretely, then, this involves the socio-economic conditions for doing business, socio-cultural conditions (including language), and legal-administrative preconditions.

The concept mental distance expresses an entrepreneur's *individual, subjective estimation* of the similarity to another country. Moreover, in the concept of mental distance, an estimation is also provided regarding the consequences of the differences. The entrepreneur estimates the consequences of the differences in formal and informal conventions to the success of the relationship. Mental distance thereby also *evaluates* the conventions of another country.

In international business literature, the concept of 'psychic distance' is often used. It is defined as 'factors preventing or disturbing firms' learning about and understanding a foreign environment' (Nordström and Vahlne, 1992, p. 3). In practice, this means that firms are predicted to start their internationalisation, in a successive order from export to foreign direct investment, by moving into those markets about which the entrepreneur/firm has the greatest experiential knowledge (Wiedersheim-Paul, 1972; Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977, 1990). Thereafter, the firm will learn incrementally about, and enter, more distant markets. However, the definition and indicator of psychic distance are both ambiguous. Apart from the erroneous associations that the word 'psychic' may evoke, the term 'cognitive distance' would express the intentions of the psychic distance approach more accurately. The term cognition, namely, refers to the experience and knowledge gathered by an individual. The psychic distance model departs from such an individual evaluation of countries on the basis of knowledge and experience.

Moreover, one would expect that psychic distance would not be measured at the level of the country but at the individual level. But in general, actual practice shows otherwise. Psychic distance is now mostly measured through 'cultural distance' on an aggregative level (see e.g. Kogut and Singh, 1988; Benito and Gripsrud, 1992). In the most recent update of the notion as provided by Nordström and Vahlne (1992) as well, it becomes clear that it is not the individual perceptions that are considered, but the objective cultural distances (see Hofstede, 1980, 1991).

Contrary to psychic distance, the concept of mental distance expresses the individual *perceptions* of differences. The notion of mental distance proposed here concerns the *estimation* of differences in formal and informal conventions with regard to business in a foreign country and of their consequences. The concept mental distance embraces not so much the knowledge as its interpretation and application, as well as the unfounded estimations concerning the differences in characteristics and their consequences for doing business. In short, mental distance is here defined as: *The estimation by entrepreneurs of the differences and the consequences of these differences in formal and informal business*

conventions between a foreign country and the home country.

From the perspective of entering into cross-border contacts, what determines his perception will be the degree to which the entrepreneur is attached, on the one hand, to the security created by a certain form of socialisation and as a result of imitation, and on the other hand to breaking certain patterns and generating innovations in his production process and/or market orientation. It is expected that this trade-off between security and insecurity determines, to a great extent, the perception towards entering into and developing economic relationships in the neighbouring country. The greater he perceives the differences in having relationships with entrepreneurs in the home country and neighbouring countries, and the more negative his evaluation of these differences, the greater is the mental distance with regard to having such relations in the neighbouring country. The expectation, then, is that the perception of great differences leads to refraining from establishing contacts (and relationships) with entrepreneurs in the neighbouring country. The reasoning behind this expectation is that great differences lead to greater adaptations and efforts to make the relationship in the neighbouring country to a comparable success. Formulated differently, a greater investment is required, costing more mental effort, money, and time. As a consequence of differences, there exists greater uncertainty with regard to economic relationships in the neighbouring country. Entrepreneurs will wish to safeguard against this uncertainty, which leads to higher transaction costs and greater pressure upon the trust in one another that is required for the success of the economic relationship.

d. The degree of 'feeling at home' in the culture of the neighbouring country

Foreign cultures begin where national borders end. For an individual entrepreneur, however, a cultural difference does not necessarily lead to xenophobia. It is important in this context to examine what the entrepreneur's emotional, affective involvement is with the culture of the neighbouring country (cf. Riedel, 1994). Following Harris, culture is now defined as '...the total socially acquired life-style of a group of people including patterned, repetitive ways of thinking, feeling, and acting.' (Harris, 1993, p. 104). It is important to establish the degree to which an individual actor is capable of empathising and feeling affinity with the culture prevailing in the neighbouring country. It is a matter of individual affection vis-à-vis the overall culture of the neighbouring country. I shall distinguish between the culture of the neighbouring country as perceived by the entrepreneur as private individual and the entrepreneur as business person. This implies that 'feeling at home' is differentiated into culture of living on the one hand, and business culture on the other.

e. Border evaluation

A border is not a neutral phenomenon. It is evaluated by the actors who have to deal with it. Still, that evaluation is seldom measured. And that while this, *a priori* less obvious, influence of the border may certainly play a role in spatial activities across that border. In economics and geographical economics, the state border is usually incorporated into the analytical model as a *barrier* to (spatial) activity. The role played by the actor's attitude towards the border as a barrier is often considered less extensively. I am then talking not of the function, but of the symbolical value of the border. In a time in which people generally speak of a 'de-functionalisation' of the borders and of a 're-symbolisation' of (national and regional) borders consequential upon the movements towards internationalisation and globalisation in economics, it is worthwhile to examine the degree to which the border is evaluated as a barrier.

In addition, environmental psychologists and socio-geographers (e.g. Leimgruber, 1980, 1991; Paasi, 1996; Riedel, 1994) generally point to the *relevance* of the border. People consider the border more or less important or valuable to their occupations. The powers that be, for instance, have an interest in maintaining state borders; entrepreneurs, far less. The population may derive feelings of identity and self-esteem from state borders.

In the present analysis, both the aspect of the border as *barrier* and its *relevance* will be considered. A suitable method to render this symbolism and the value attached to the concept and phenomenon of borders analytically operational is to measure them through attitudes that express the evaluation of the border (cf. Reynolds and Mc Nulty, 1968; Leimgruber, 1980, 1991; Riedel, 1994). The expectation is that entrepreneurs who regard the state border as irrelevant and not as a barrier will have more economic relationships.

II Attraction

An encounter between two entrepreneurs remains a one-off encounter if both do not have the idea that an economic relationship with the other will be profitable. The question then is what factors make it so that one can speak of a certain degree of attraction, a 'click' between these two actors causing them to decide to do business together? Only little attention, however, is devoted, in economic theories on transactions, to this phase. So as to verify the importance of the attraction stage in the development of cross-border economic relationships, an appeal must be made to the socio-

psychological theories concerning interpersonal attraction that elucidate the (determinant factors of the) process of attraction². In addition, an extensive search for the determinants of the arising of attraction is made. From the relevant literature, the following determinants of attraction have been distilled (Baron and Byrne, 1997; Meertens and Grumbkow, 1988/1992, Veen and Wilke, 1986):

- a. Similarity
- b. Complementation
- c. External or physical attraction
- d. Spatial proximity

a. Similarity as factor of attraction

In a first encounter between entrepreneurs, mutual feelings - whether positive or negative - for or about the other, arise that are not necessarily economic in nature at the first instance, but may have an economic impact. The entrepreneur himself evaluates the professional opinions, ideas, habits, competence, or behaviour of the potential partner. When an actor compares himself to another, he feels more attracted as the similarities (or positive results of the comparison) are greater and the dissimilarities (or negative results) smaller (Baron and Byrne, 1997; Byrne and Clore, 1970; Byrne, 1971; Newcomb, 1961; Sharma and Kaur, 1996; Singh and Tan, 1992; Snyder, 1979; Turner *et al.* 1987). This is the similarity effect. Discovering similarities in the other reduces the insecurity issuing from the unfamiliarity with that other (Byrne, 1971; Festinger, 1954). In some economic studies on similarity, subsumed under terms like 'shared norms' or 'compatibility', the relationship between similarity and success of the relationship has been tested (see, e.g. Bucklin and Senguta, 1993; McAllister, 1995; Sarkar, Cavusgil and Evirgen, 1996). These studies indicate that there is a strong direct link between partner match and the success of the relationship.

b. Complementation as a factor of attraction

'Opposites attract' is a maxim that applies to the second reason for the emergence of inter-personal attraction. A certain degree of inequality in skills and character traits can be attractive (Byrne, 1971; Rijsman, 1981). The idea here is that personal identity and mutual appreciation may provide benefits if the other does not have exactly the same notions, behaviour or skills (Baron and Byrne, 1997). Especially in relationships between enterprises, joining unequal information or resources may be desirable. One might think of the contacts or relationships of the other entrepreneur, the access he may provide to a certain market, and diverging professional ideas. For strategic reasons, complementation may be preferable to similarity between partners (Van Oudenhoven and De Boer, 1995; Ring and Van de Ven, 1994). A synergetic effect might be the result, which will affect the success of the economic relationship in a positive manner (Contractor and Lorange, 1988; Harrigan, 1988; Bleeke and Ernst, 1991). Nevertheless, it is generally assumed that the effects of complementation plays a smaller role in the emergence of attraction than the effects of similarity (Drigotas, 1993). Too great a difference increases insecurity; additional trust and/or additional safeguards are then necessary in the agreement between the parties.

c. External or physical attraction as factor of attraction

The theories on interpersonal attraction ascribe an important role to the factor of physical attraction. In the first meeting especially, the other's looks, or in other words his/her physical characteristics, are important determinants (Berscheid and Walster, 1974; Berscheid, 1985). How do two entrepreneurs/enterprises evaluate one another where it concerns external attractiveness? One should think most notably of matters such as the price and the quality of the products sold or supplied by the other. These external characteristics may be strategically influenced by means of marketing and image-building.

d. Spatial proximity as factor of attraction

A last factor which is of importance to the emergence of attraction between entrepreneurs is spatial proximity. The simple fact that two individuals live and/or work at a short distance of one another is in many cases decisive to the arising of attraction. Marriage and friendship often bring together people living or working in the same municipality, the same street, or even on the same floor (Festinger, Schachter and Back, 1950). Proximity by itself, however, does not explain attraction. Proximity is not a cause. It must be determined why attraction emerges between people that live

² When applying non-economic theories to economic behaviour, the problem usually called 'the ecological fallacy' enters into play (see, for instance, Iacobucci and Ostrom, 1996). When discussing the assumptions, I will indicate how the socio-psychological theory should be applied to the situation of entrepreneurs or how entrepreneurial behaviour differs from 'normal' socio-psychological behaviour.

and/or work in close proximity.

In regional economics and economic geography the explanation of the role of proximity is a central issue. It can be said that in this field of science the entrepreneur's economic rationality, where it concerns the minimisation of costs and maximisation of profits, is no longer taken to be the only point of departure. Firms are no longer seen as 'black boxes'. Instead, theories focus more and more on the internal organisation of the firm as well as on the individual entrepreneurial level. To the individual entrepreneurial behaviour, perceptions, cognitions, the image of the location, the barriers to face-to-face contacts, and the latter's merits are gradually being taken into account. It is gradually recognised that the social and institutional context within which entrepreneurs function feeds the rationale underlying their economic behaviour to an important extent. Entrepreneurs sometimes opt for clustering with certain companies in certain locations, which cannot be explained by a rational economic costs/benefits analysis. The reverse also holds true. Entrepreneurs sometimes clearly refuse clustering with certain companies in certain locations where this would be economically and rationally feasible or even desirable. In modern regional economics, geographic proximity is not merely the mathematical reverse of distance (Lambooy, 1992).

The analogy between the evolution of economic geographical and regional economic theories on the attraction between firms on the one hand, and socio-psychological theories on factors of attraction between entrepreneurs on the other, is remarkable. In socio-psychology, too, the argument that the costs aspect of spatial proximity is not the only determinant is voiced clearly (Schutte and Light, 1978). In this respect, Meertens and Grumbkow (1992) point out another influence that is thought equally essential in explaining the importance of spatial proximity at the international level. The *repeated contact effect* or *mere exposure effect* especially is regarded as the most important alternative explanation (Zajonc, 1968; Moreland and Zajonc, 1982). The first impression of another cannot be more than a limited, often stereotypical impression of his factual personality. Nevertheless, even a single contact may sometimes suffice to engender a positive/more positive emotion. If the contact becomes more frequent, his/her personal characteristics become more familiar, which generally also increases the attraction towards him/her. This in turn benefits the development of the bilateral economic relationship.

Thus, face-to-face contact, and therefore physical distance, should still be seen as an important factor in establishing cross-border contacts. Modern communication means, such as the telephone, telefax, or the Internet, which might in principle be used to establish business contacts at a distance, offer insufficient replacement for the personal certainty concerning the other that may be obtained through face-to-face contact (cf. Gottmann, 1961). Telecommunications and face-to-face contact are complementary. Even if complete security can never be obtained about the person with whom one will do business, the personal experience of how that person looks and behaves does usually inspire confidence (*idem*). Besides, direct personal contact between individuals from different social groups might have a harmonious effect on intergroup relations (see, Allport, 1954). It might lead individuals to perceive the in-group (the 'us') and out-group ('them') as more similar to each other, and it results in more favourable evaluations of the out-group (Gaertner *et al.* 1994; Kosmitzki, 1996). Especially in the case of international relationships, where different national identities are often involved, this may be of crucial importance (cf. Paasi, 1996).

It should be noted, that in a context of direct contact, the positive effect will not hold, or at least to a lesser extent, if the initial reaction to a first exposure is negative. Repeated contact in this case may have the opposite effect. People who experience intergroup contacts in such cases focus even more strongly on the differences, and stereotyping is enhanced (Turner *et al.*, 1987; Krueger, 1992; Kosmitzki, 1996). It has been argued in psychological literature that the condition of interpersonal attraction in particular and co-operative interaction between the actors, an equal status of the actors in question, and supportive norms within and outside of the contact, are to be marked as important stimuli to reduce this negative bias in direct personal contact. These conditions alter the actors's cognitive representations of the memberships from 'us' and 'them' to a more inclusive 'we' (Gaertner *et al.*, 1994).

III Interaction

After the first *contact* and the emergence of *attraction* between two entrepreneurs, a new stage begins: the *interaction*. This is a phase during which deliberations are undertaken concerning the benefits each of the entrepreneurs wishes to obtain from the relationship. In the interaction stage, the transaction stage is prepared, during which the decision whether or not to commit the final agreements to paper (the contract) is made.

a. Transaction costs

The economic theory specifically focused on this interaction stage is the transaction costs theory. This theory, which is influential in organisation literature, offers handles for selecting the most efficient governance structure for

transactions. In other words, the theory deals with the decision moment whether or not to do something oneself. Williamson and other theorists advocating the transaction costs theory have expanded the options, later on, with the possibility of choosing intermediate governance structures (Richardson, 1972; Williamson, 1985). The transaction costs theory presupposes entrepreneurs to be boundedly rational and opportunist. These are the pillars upon which the theory is built. There would be no transaction costs in Williamson's model if complete rationality and/or no opportunism were assumed. Via a process of 'private ordering', a balance is achieved in the mutual dependency associated with the transaction. In the end, the governance structure that is most efficient is chosen for an international transaction, given the frequency of the transaction, the uncertainty involved, and the degree to which the investments are relation-specific. Thus, the theory provides a forceful instrument to analyse the nature and risks of economic transactions, and how to reduce the risks of transactions. The theory is clear and powerful, but at the same time only partially realistic. Transaction costs theory creates a 'black box' by exogenously presupposing a certain human behaviour (cf. Holton, 1992, p. 73; Ghoshal and Moran, 1996; Moran and Ghoshal, 1996). Bounded rationality and opportunism are regarded as given facts, as constants - they are not variables. I believe this is a major weakness in Williamson's theory. The human characteristics in Williamson's 'main case' are assumed to be independent for the specific characteristics of the interaction, the situation within which the transaction occurs, or social and historical influences. Moreover, the theory wields a very narrowly-defined image of human behaviour in economic traffic, namely that of the *homo contractis* or contracting man (Williamson, 1985). Economic man is reduced to an incompletely informed and often untrustworthy, selfishly calculating human being. From such an image of mankind, it is but a logical consequence that a study of the most efficient contract structure follows in traditional economic terms. This becomes less evident, and the scope of possible viewpoints of economic studies grows, if a more realistic, less simplistic image of mankind is used. The assumptions of bounded rationality and opportunism are not useless - but they are incomplete (cf. Holton, 1992). I believe that man, as a biologically adaptive creature, is turned into a caricature of himself where it concerns economic behaviour - in spite of all his advanced capacities to learn, experience, feel, and reflect. It is therefore doubtful whether the existence of the enterprise, economic relationships, or other governance structures can be explained entirely and solely by the transaction costs theory. However, in spite of these shortcomings, the concept of transaction costs remains valid. The notion of transaction costs is a useful one when seen as a point of departure and indicator for deliberations that may be of an opportunist nature, thus rendering necessary investment costs and/or modification costs. It forcefully summarises part of the behaviour that plays a role in the deliberation process during the interaction stage.

b. Trust

In the face of the postulates on human behaviour of the transaction costs theory, the international network theory sets up the assumption of trust (Johanson and Mattsson, 1987, 1988). In the interaction between actors, so this theory states, the economic actor does not aim so much at improving himself at the cost of the other, but first and foremost to give the relationship form and content. In the eyes of network theorists, trust is an important factor in the determination of the content and depth of the economic relationship. Trust is built according to an iterative process; it is dynamic and endogenous. Economic actors learn from each other's behaviour and attempt to achieve a relationship optimal for both through an iterative process (see also Larson, 1992).

I believe, the proponents of this theory have a point there. Trust is a social term, an interpersonal phenomenon that has an important role to play in trying to explain the characteristics and development of negotiation processes and patterns (see also Zucker, 1986; Gulati, 1995). For, economic relationships are constructed socially and process-wise. In these relationships, institutionalised patterns and expectations with regard to the other's professional conventions, behaviour and opportunism are important.

Trust has two, closely related dimensions. First of all, trust is the *perception and interpretation* of the other's expected 'dependability'. Expected dependability, in my opinion, is the inverse of deviations in one's expectation of the reaction of the other to one's actions. When the other reacts in an unexpected and unpleasant way, the perceived dependability decreases. Opportunism can only come into existence if both businesses are dependable from the start. Without dependability as a basis within a relation, there can be no deviation, that is, opportunism. And without dependability, there can be no relationship. The emergence of trust therefore occurs at the beginning of the relationship as an expectation of dependability.

Secondly, the expected trust is tested during the interaction stage. During the interaction process, expectations about the other's behaviour are confirmed or denied, and entrepreneurs learn from each other's behaviour and develop expectations around mutual habits and conventions. This process may gradually lead to a feeling of 'we-ness' in an economic relationship. Trust is therefore as much an expectation as a result. It is important that the trust shown by the partners reduces the insecurity, thereby increasing the chances for the economic success of the relationship (see Aulakh, Kotabe, and Sahay, 1996; Bleeke and Ernst, 1991; Morgan and Hunt, 1994; Nooteboom *et al.* 1995; Parkhe, 1993; Ring and Van de Ven, 1994; Wilkins and Ouchi, 1983). In short, trust is expected to be both a condition for and a result of

interaction, as well as a precondition for the success of the relationship. The correlation between the dimensions of the attraction stage, as a condition for the start-up of the interaction phase, and the dimensions of the interaction stage will be examined below. The correlation between trust and success will be verified through a multivariate analysis.

To summarise the interaction stage, the factors of importance are: (a) *the height of the transaction costs*, and (b) *the degree of trust in the interaction between the partners*. The height of the transaction costs shall be measured by means of the specificity of the investments in the product or production process; the resources, the knowledge and the manpower required to enter into the transaction; and the degree of uncertainty concerning the behaviour of the other (see Williamson, 1975, 1985; Rindfleisch and Heide, 1997). The degree of trust in the bilateral interaction will be measured through the degree of expected faithfulness, the degree of openness and informality of the contact with the other, and the suppleness of communication between the partners (Smith and Barclay, 1997).

IV Transaction

When the international interaction proceeds according to the expectations of both parties and the conditions have been agreed upon, the decision to ratify the intention to exchange resources or information may be taken: this is the moment of transaction. It may be decided to put the agreements down in writing or not. It seems reasonable to suppose that those agreements whose transaction costs are elevated (due to high asset specificity) and whose trust is low will be committed to paper. Because of higher transaction costs and lower trust, it is expected that *formal* agreements are less successful than *informal* agreements. It must be determined, therefore, under which circumstances the parties will decide to commit the agreements to paper, and under which circumstances they will deem it unnecessary to do so.

V Relationship

When a transaction has materialised, it may grow into a relationship. Then, it is crucial that *continuity* is maintained in the exchange traffic between the enterprises (Duck, 1995). More precisely, a border-crossing economic relationship has been defined as: *an agreement, whether or not in writing, between two autonomous, separately constituted enterprises from two neighbouring countries and of a different nationality, which provides in the regular occurrence of a business activity or transaction, or that the business activity or transaction has been placed under a certain division of joint management*.

VI Success

The last stage in the INTERFACE model is the degree to which a border-crossing relationship is successful. It is impossible to examine the development process of all relationships the responding companies may have. This is why I chose to let the companies select that relationship which they considered most important. The questionnaire indicated what exactly should be considered important. The importance of the relationship was measured in terms of the intensity of the relationship, that is to say, the degree to which it involves the essence of the company. The importance of the relationship is not necessarily reflected in its influence upon the company's turnover. A control relationship, such as a joint venture or a merger, is the most far-reaching form of co-operation because it is the most intensive form of co-operation. Next in line is the production process relationship, which involves a physical exchange (outsourcing/supply) in terms of commodities to complete the product. Then comes the service relationship, involving consultancy or the outsourcing of a certain supportive service, and finally the sales relationship, which involves the representation or promotion of the products by another company. For the sake of clarity of this paper, I will not analyse the differences between these types of relationships further.

Often, the basis of the relationship's success is already laid during earlier stages of the relationship's evolution process. Factors such as the degree of attraction, the degree of trust in the interaction, and the compulsion of the contract are expected to play a role in the degree to which the established relationship will be successful. In other words, the success of border-crossing economic relationships is expected to be heavily *path-dependent*. The entrepreneurs have been asked to indicate (a) how far the *intensity* of the relationship has altered since the moment of transaction, and (b) how they themselves assess the success of the relationship (see Emerson, 1981; Sarkar, Cavusgil, and Evirgen, 1996).

Overview of the determinants in the INTERFACE model

Above, I have examined the factors that should be considered important in the various stages of the development

process of cross-border economic relationships. In scheme 1 below, the determinants in the INTERFACE model distinguished in section 1 are summarised (in the appendix an overview of the indicators of these determinants is presented).

Scheme 1 - Determinants in the development stages of the INTERFACE model

I. Contact

- a. Social & Professional network; number of personal and professional acquaintances
- b. Relationship preference
- c. Mental distance
- d. 'Feeling at home in the neighbouring country's culture'
- e. Evaluation of state border

II. Attraction

- a. Similarity
- b. Complementation in business contact and relationships
- c. External or physical attraction
- d. Spatial proximity

III. Interaction

- a. Height of transaction costs
- b. Degree of trust

IV. Transaction

Formal versus informal relationship

V. Relationship

Continuity

VI. Success

- a. Growth in intensity of the economic relationships since the moment of transaction
- b. Perception of success

Characteristics of the enterprise

In addition to the above-mentioned factors, the most important characteristics of a (growing) enterprise are incorporated in the analysis as control variables. The following manifest variables will be included in the analyses:

1. The enterprise's age
2. The size of the enterprise (in number of active persons)
3. The number of economic relations in the home country
4. The percentage of cross-border workers
5. The export percentage
6. The sector to which the enterprise belongs

These more traditional explanatory variables will be incorporated to demonstrate their relative importance in comparison with the variables in the INTERFACE model. They are the so-called control variables.

2. Formulating the research hypotheses

On the basis of the INTERFACE model two research models, applying to all respondents included in the survey, regardless of regional provenance, will be reported here. These models aim at explaining the last two stages in the INTERFACE model, stage 5 - relationships, and stage 6 - success: the number of cross-border economic relations and the success of one cross-border economic relationship. The expected influences of the independent variables in the two models are outlined below.

2.1 The number of cross-border economic relationships

The number of cross-border economic relationships provides a good indication of the degree to which the enterprise is economically involved in the neighbouring country. The research question is: ***Which factors determine the number of a company's cross-border economic relationships with companies in the neighbouring country?***

The determinants of the contact stage will be considered most notably as explanatory variables to the total number of relations. These variables determine, in the first instance, the intention to get into contact and the contact pattern. As not all relationships were followed on the longer term, no bilateral process variables have been included as explanatory variables in the explanation of the total number of relations. The hypotheses are given below.

Contact

Network of acquaintances

The more personal and professional acquaintances the entrepreneur has in the neighbouring country, the more economic relationships the enterprise will have in that country.

Type of relationship preference

The more the entrepreneur's prefers an active search for relations and contacts in the neighbouring country, the more economic relationships the enterprise will have in that country.

Mental distance

The greater the entrepreneur perceives the mental distance between the home and neighbouring countries to be, the smaller the number of economic relationships the enterprise will have in that country.

Feeling at home culturally

The more the entrepreneur feels at home in the living and working environment of the neighbouring country, the more economic relationships his company will have in that country.

Border evaluation

The more the entrepreneur regards the border as a barrier, the smaller the number of economic relationships he will have in that country; and the less relevant the entrepreneur regards the border to be, the more economic relationships the enterprise will have in that country.

Control variables

Age of the enterprise

The older the enterprise, the more economic relationships it will have in the neighbouring country.

The number of active persons

The greater the size of the company, the more economic relationships it will have in the neighbouring countries.

The percentage of cross-border workers employed

The higher the percentage of cross-border workers employed by the enterprise, the more economic relationships it will have in the neighbouring country.

Export percentage in the neighbouring country

The higher the export percentage to the neighbouring country, the more economic relationships the enterprise will have in that country.

The number of economic relationships in the home country

The more economic relations in the home country, the greater the number of economic relationships in the neighbouring country.

Importance of the sector

If the company is industrial, it will have more economic relationships in neighbouring countries; a construction company will have a smaller number of economic relations.

2.2 The success of a cross-border economic relationship

The second analysis, regarding the success of cross-border economic relations, involves a study of the formation of a particular bilateral cross-border economic relationship, given the fact that an initial contact has been established. The research question is: ***What determines the success of a cross-border economic relationship?***

By means of the INTERFACE model that is set up in this paper, it is possible to demonstrate which factors are of great explanatory value to the eventual degree of success of cross-border economic relationships, once the contact has been established. The aim is to analyse the relation between the different formative stages of the cross-border economic relation and its eventual success. Below, in the hypotheses, the explanatory values whose contents were discussed

above, are listed. Here I will shortly indicate their expected influence:

Attraction

Similarity

The greater the attraction due to the similarity factor, the greater the relationship's success.

Complementation

The greater the attraction due to the factor complementation, the greater the success of the economic relationship.

Spatial proximity

The greater the attraction due to spatial proximity, the greater the success of the cross-border economic relationship.

Price/quality ratio

The greater the attraction due to price/quality ratio, the greater the success of the cross-border economic relationship.

Interaction

Trust

The greater the trust between the two parties involved, the greater the success of the cross-border economic relationship.

Transaction costs

The lower the transaction costs, the greater the success of the relationship.

Transaction

An informal agreement leads to a more successful relationship than a formal agreement.

Control variable

Importance of the sector

If the company is industrial, the success of the cross-border relationship is greater than when it is a construction company.

3. Towards a verification of the hypotheses and an explanation of the results

The research hypotheses, as given above, have been put to the test. To this end, an extensive questionnaire was sent to 1,727 companies in three regions on either side of the border between the Netherlands and Belgium, to wit Zeeland Flanders and Central and North Zeeland in the Netherlands and the district of Gent/EEKLO in Belgium. All companies that were approached belonged to the construction, industrial, and wholesale sectors. In all, 27.2% of the companies completed and returned the questionnaire in time. To fulfill the condition of continuity, all firms were asked to fill in the questionnaire for the case of the transactions that are taken place regularly with the same partner.

In the present section, I will describe the results of the analysis that have been done to test the research hypotheses. The appendix contains the model's determinants that were analysed by means of factor analyses. The items that emerged from these factor analyses will be used in the two multivariate analyses that follow (Hair *et al.*, 1995). All the analyses have been checked on multicollinearity.

3.1 Determinants of the number of economic relationships in the neighbouring country

The first analysis involves an investigation of the factors that play a crucial role in determining the *number* of economic relationships in the neighbouring country. A multiple regression analysis was executed for the number of economic relations in the neighbouring country. The table below presents all the independent variables of the analysis and their explanatory value. The complete model applies for the companies in all regions and was found to explain the number of economic relations of the companies significantly ($F(18/430)=13.21$, $p < 0.01$, adjusted R Square =0.33).

Table 1 - Multiple regression analysis of the number of economic relations in the neighbouring country

Independent variables:	Dependent variable: The number of economic relations	
	Coefficient (1)	Significance (2)
Number of professional acquaintances in the neighbouring country	0.01	0.92 n/s

Number of personal acquaintances in the neighbouring country	0.15	0.01 ***
Type of relationship preference: networking	0.08	0.05 *
Type of relationship preference: bold and well-informed	-0.06	0.16 n/s
Type of relationship preference: regionally/nationally bounded	0.02	0.73 n/s
Feeling at home in the culture of the neighbouring country	-0.01	0.73 n/s
Mental distance: The expected negative effect of the relationship	-0.08	0.08 *
Mental distance: The expected discrepancy in business conventions in the relationship	-0.09	0.04 **
Mental distance: The stringency of the financial-economic conditions of the relationship	-0.09	0.03 **
Evaluation of the state border: The state border is a barrier	0.05	0.22 n/s
Evaluation of the state border: The state border is irrelevant	0.07	0.08 *
Age of the enterprise in years	-0.01	0.81 n/s
Number of employees	-0.04	0.31 n/s
Proportion of cross-border workers in %	-0.02	0.67 n/s
Proportion of sales in neighbouring country in %	0.31	0.00 ***
The number of economic relationships in the home country	0.45	0.00 ***
Dummy industrial sector	0.10	0.03 **
Dummy construction sector	-0.01	0.91 n/s

(1) This expresses the direction (positive/negative) and the force of the influence (Beta)

(2) *** level of significance < 1%; ** level of significance < 5%; * level of significance < 10%; N/S= not significant

It can be said that the number of economic relations in the neighbouring country is significant dependent from:

- the industrial character of the company
- the number of personal acquaintances in the neighbouring country
- the export volume to the neighbouring country (in %)
- the number of economic relations in the home country
- 'networking' as a type of relationship preference
- the positive expectation relating to the effect of the relationship in the neighbouring country
- the expectation of a small discrepancy with regard to the business conventions of the relation in the neighbouring country
- a small degree of stringency in setting financial-economic conditions to the relation in the neighbouring country
- the degree to which the entrepreneur regards the state border as irrelevant

In short, the number of economic relations in the home country, the export volume to the neighbouring country, and a relatively small mental distance to the neighbouring country, are decisive factors in determining the size of the network of economic relations of a company in the neighbouring country. Apparently, the development path of the company on the one hand, and the entrepreneur's perception and attitude on the other, are crucial factors in the explanation of the internationalisation pattern. The importance of the evaluation of the differences in doing business in the neighbouring country and their consequences, is an innovative element in the explanation of the internationalisation pattern. On the one hand, it indicates that the rationality of the economic actors is overestimated in the transaction costs theory and should be modified in favour of the role of perception and attitude; on the other hand it emphasises that it is not so much the absolute knowledge with regard to the neighbouring country or the absolute difference in culture between countries that is important in entering into cross-border economic relationships, but the entrepreneur's perception of and attitude vis-à-vis enterprise in the neighbouring country.

3.2 Determinants of the success of a cross-border economic relationship

Some economic relationships are more successful than others. The question is whether it is possible to predict what will be a successful relationship on the basis of the factors of the INTERFACE model, once the contact between the partners has been established. This is what will be examined in the course of this section. Before tackling this question through multivariate analysis, I will first indicate the bivariate correlations between the various stages of the INTERFACE model preceding the actual start of the relationship when the contact has been initiated. Thus, I am concerned here with the connection between the stages of attraction, interaction, and transaction.

The correlation between attraction and interaction

In the first place, there appears to exist a strong and meaningful connection between the variables of attraction and the variables of interaction. Table 2 reflects the correlation coefficients between these two phases.

Table 2 - The correlation between the dimensions of attraction and interaction

	Trust	Transaction costs
Similarity	0.46***	-0.01
Complementation	0.16**	0.31***
Price/quality ratio	0.13*	0.00
Spatial proximity	-0.06	-0.15**

*** level of significance < 1%; ** level of significance < 5%; * level of significance < 10%

The degree of correlation between the dimensions of attraction and interaction is represented here. The strongest link between attraction and interaction is doubtless the degree of similarity. It would seem that a high degree of trust in the interaction goes together with a high degree of similarity in the attraction stage. Similarity between the partners and trust therefore go hand in hand.

A negative correlation might *a priori* be expected between complementation and trust, since complementation implies a certain degree of uncertainty, which may be attractive. Opposite attracts. It may stimulate a fruitful interchange of ideas and processes. In a way, attraction as a result of the complementation of the other therefore implies, for the entrepreneur's own company, the *capitalisation of uncertainty*. The attraction due to complementation, however, does not necessarily inspire confidence. It was therefore expected that a negative correlation between trust and complementation would exist. A possible explanation of the positive relation between complementation and trust is that the dimension of complementation also implies that the other has a strong market and network position. If an actor has contacts and relationships with many other companies, this will strengthen the trust in that actor. And apparently, this positive 'market and network position effect' is stronger than the negative 'uncertainty effect'.

The strength of the 'uncertainty effect' of attraction because of complementation however, is clearly visible in the transaction costs. It was found that transaction costs are strongly and positively correlated with the evaluation of the degree of complementation with the other. This is in line with the expectations. If the other is considered highly attractive because of a high degree of complementation, this implies that the diverging ideas of the other and his many contacts and relations are valued, but that they generate, at the same time, extra uncertainty and/or additional investments and adaptations to make the relationship possible. This uncertainty and/or the investments and adaptations drive up the transaction costs. In sum, the attraction dimension of complementation has two possible effects operating at the same time. On the one hand, it may generate a 'market and network position effect' which increases the trust in the partner, on the other, and more strongly so, it may create an uncertainty effect, which increases the transaction costs.

Furthermore, it was found that a good price/quality ratio and trust are positively and indicatively connected. A high product quality against a good price implies that there exists a high degree of trust in the other.

No significant correlation was found between trust and spatial proximity. That is a meaningful result. It leads one to conclude that a short physical distance between partners is not enough to create a sense of trust. Between spatial proximity and transaction costs, however, a negative correlation exists (see table 2). This negative correlation cannot be explained as a reverse effect of the correlation between trust and spatial proximity. For it is not the increase of trust

between physically close working partners, that reduces the transaction costs. The possible threat of malfeasance, causing uncertainty, is not lessened in a situation of spatial proximity. Considering the indicators of transaction costs I included (see appendix), the explanation must then be that spatial proximity reduces the investment and/or adjustment costs that are a consequence of the initiation of the transaction. Apparently, on a short distance across the border those transactions take place, that do not request major investments in knowledge and resources, and major adjustments in the product and production process of the firm. Vice versa, when the physical distance between the partners increases, the transaction costs rise.

The correlation between interaction and transaction

Between the two dimensions of the interaction stage, trust and transaction costs on the one hand and the variable of the transaction stage (contract Yes/No) on the other, a strong and meaningful connection exists. It was found that a significant negative connection exists between the formality of the transaction and the degree of trust, and a significant positive connection between the formality of the transaction and transaction costs. These results coincide with the theoretical perspectives as set out above. The conclusion that mutual trust goes together with informality of the transaction tallies with the body of ideas central to the network theory. The conclusion that high transaction costs go together with formality of the transaction tallies with the body of ideas central to the transaction costs theory. The formalisation of the agreement, in short, happens especially in cases of high transaction costs and low trust, which require extra security in the form of a contract. These findings confirm that there is space for two dimensions side by side in the interaction stage: trust and transaction costs. Each dimension fills its own role in the interaction process.

Multivariate analysis of the success of the most important cross-border economic relationship

Next, the multivariate analysis has been conducted (table 3). The complete model applies for all companies in all regions, and was found to explain the number of economic relationships of the companies in a significant manner ($F(9/121) = 5.85$, $p < 0.01$, adjusted R square = 0.25).

Table 3 - Determinants for the success of the cross-border economic relationship

Independent variables		Dependent variable: Success of the economic relation	
		Coefficient (1)	Significance (2)
Attraction	Similarity	0.16	0.07 *
	Complementation	0.04	0.96 n/s
	Price/quality ratio of the resources	0.14	0.37 n/s
	Spatial proximity	-0.10	-0.20 n/s
Interaction	Transaction costs	-0.05	0.51 n/s
	Trust	0.37	0.00 ***
Transaction	Formal: yes or no	0.13	0.11 n/s
Control variables	Dummy: Industry	0.06	0.48 n/s
	Dummy: Construction	-0.13	0.12 n/s

(1) this expresses the direction (positive/negative) of the influence (Beta)

(2) *** level of significance < 1%; ** level of significance < 5%; * level of significance < 10%, N/S= not significant

The first determinant of the success of a cross-border economic relationship is the degree of similarity between the partners. This attraction factor expresses the equality of ideas and conventions between the partners at the outset of the contact.

The second and most important determinant of the success of a cross-border economic relationship is the effective mutual trust between the partners. A greater success of the relationship will result if there is a strong degree of trust during the deliberations concerning working agreements.

4. Confrontation

In this concluding section, the hypotheses proposed at the theoretical outset of the present paper, will be set against the findings that emerged from the empirical research. This confrontation is shown in table 4.

Table 4 - The hypotheses versus the results

		Number of economic cross-border relations		Success of an economic cross-border relation		
		Hypotheses	Results	Hypotheses	Results	
Contact	Feeling at home in culture of neighbouring country		+	-(n/s)	n/a	n/a
	Mental distance	Expected negative effect of the relationship	-	-(s)	n/a	n/a
		Expected discrepancy with regard to business conventions	-	-(s)	n/a	n/a
		Stringency in financial-economic conditions	-	-(s)	n/a	n/a
	Border evaluation	Barrier	-	+(n/s)	n/a	n/a
		Irrelevance	+	+(s)	n/a	n/a
	Number of personal acquaintances		+	+(s)	n/a	n/a
	Number of professional acquaintances		+	+(n/s)	n/a	n/a
	Preference: Networking		+	+(s)	n/a	n/a
Preference: Bold and well-informed search		+	-(n/s)			
Preference: Regionally/nationally bound		-	+(n/s)			
Attraction	Similarity		n/a	n/a	+	+(s)
	Complementation		n/a	n/a	+	+(n/s)
	Price/quality of the resources		n/a	n/a	+	+(n/s)
	Spatial proximity		n/a	n/a	+	-(n/s)
Interaction	Height of the transaction costs		n/a	n/a	-	-(n/s)
	Degree of trust		n/a	n/a	+	+(s)
Transaction	Formal(+) or informal(-) relation/ship		n/a	n/a	-	+(n/s)
Control variables	Age of the enterprise		+	-(n/s)	n/a	n/a
	Size of the enterprise		+	-(n/s)	n/a	n/a
	Export rate		+	+(s)	n/a	n/a
	Number of cross-border employees		+	-(n/s)	n/a	n/a
	Number of economic relations in home country		+	+(s)	n/a	n/a
	Sector: Industry Yes or No		+	+(s)	+	+(n/s)

	Sector: Construction Yes or No	-	-(n/s)	-	-(n/s)
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* n/a stands for 'not applicable', meaning that it is impossible to make a (meaningful) theoretical prediction on the basis of the research design used.

Model 1

In the first model - the analysis of the number of cross-border economic relations - a diversified picture emerges from the confrontation of theory and empiricism. The direction (positive and negative) of the significant variables conformed to my expectations. However, not all variables that were expected to play a crucial role appeared to be significant in the explanation of the number of cross-border economic relations.

A first remarkable observation is that the variable 'number of professional acquaintances in the neighbouring country' is not significant, while the variable 'number of personal acquaintances' is. *Personal* informal embeddedness in the society of the neighbouring country is apparently more important in explaining the number of cross-border economic relations than *professional* informal embeddedness.

Another interesting observation is that whether the border is regarded as a barrier or not does not play a significant role in the number of economic relations. The perceived relevance of the border does however, as was expected, play a significant role in the number of cross-border economic relations. Those firms who regard the border as relevant, have less often and fewer cross-border economic relations.

The dimensions of mental distance, in accordance with expectations, were significant and negative. The present paper therefore demonstrates that the perception and attitude of entrepreneurs vis-à-vis the border and the neighbouring country, as represented through mental distance, has a significant influence upon the number of cross-border economic relationships.

Furthermore, it was observed that the variable of 'relationship preference' could be subdivided into three categories. Relationship preference characterised as 'networking' appears to play a significant role in determining the number of cross-border economic relationships, which was according to expectations. Contrary to expectations, however, the other two types of relationship preference, 'bold and well-informed' and 'national/regional', were not found to be of significant importance. Among the control variables, 'export rate', 'the number of economic relations in the home country', and the dummy sector 'industry' were found again to be strongly positive and significant, thereby confirming the stage concept of internationalisation.

Model 2

In the second model that was analysed - the success of an economic relationship in the neighbouring country - the attraction dimension 'similarity' lived up to the expectations in playing a significant role. This dimension has a positive influence upon the success of the relationship. It is of much more importance, so it would seem, to have a great deal in common, in character and in (business) conventions, than to complement each other, in order to have a successful, long-term relationship. This conclusion coincides with important findings in the empirical tests of the 'similarity' versus 'complementation' hypothesis in social psychology (see Meertens and Grumbkow, 1988/1992).

The effect of the factor 'height of transaction costs' on success was found not to be significant, while it was expected to be negatively significant. Transaction costs were found to be of great importance in determining the formality of the relationship, but were not found to be of any direct relevance in determining its eventual success. One might argue, however, that transaction costs do play an important role, indirectly, in the eventual success of the relationship by determining its formality. But this is not the only determinant of the formality of a transaction. In the interaction stage there is yet another important determinant of the transaction's formality: trust. Moreover, it is this second dimension of interaction that has a strong positive effect on the success of a cross-border economic relationship. This important result is in line with my expectations as set out above.

In short, the second model indicates that there is a strong link between similarity in the attraction and trust between the partners in the interaction, and the degree of success of the relationship. At the same time there seems to be a second link, beginning with complementation in the attraction stage, the height of the transaction costs in the interaction stage, and the degree of the transaction's formality. The empirical results in this research do not allow for further theoretical statements on this point, but the findings as described do suggest that these two lines do not stand by themselves. There might well be a pattern. But for that to be established, further research into this intriguing relationship between attraction, interaction, transaction and success would be necessary.

5. Conclusions

In this paper, the central question concerned the influence of the state border, within the European economic union, upon the development of economic relationships between two companies in regions on either side of that border. For

the purposes of this paper, development involved the number and success of cross-border economic relationships between companies in the border regions of the Netherlands and Belgium, to wit, Zeeland Flanders and Central and North Zeeland on the Dutch side of the border, and Gent/Eeklo on the Belgian side. A model was developed that purposed to describe the development of cross-border economic relationships between two companies accurately and could be used to answer the research question. This stage model was called the INTERFACE model, which is an acronym for *INTERNational Formation of Autonomous Co-operation between Enterprises*. On the basis of the INTERFACE model research hypotheses were formulated to explain the number of economic relationships as well as their success. These hypotheses have been put to the test by means of a large-scale survey research. The most important conclusion of the explanation of the number of cross-border economic relations is that the immediate proximity of the border is (still) a major problem in the development of cross-border economic relationships by firms in border regions. To answer the central question in this investigation: the state border is present mainly *mentally*. The spatial economic behaviour of entrepreneurs appears to be guided quite clearly by the abstract administrative borders of provinces and countries. The distance to the region on the other side of the border is generally quite small, but the *mental distance* is often far greater. The market is thereby divided not just in a spatial, but also in a mental sense. The state border is rooted in the minds of people. The size of the mental distance has a proportionately negative effect on the number of cross-border economic relationships. Apparently, economic actors do not always appear fully capable or willing to gather the relevant objective information; they seem to draw their own subjective borders and build their own behavioural patterns, possessing certain 'belief sets' that do not necessarily align with what is economically realistic or desirable. Besides, internationalisation is a process that starts in the home country. When a decision is made to initiate relationships with companies in other regions or even further away, the first step towards the neighbouring country has been made. In general therefore, international co-operation on a large scale is associated with relatively far-reaching national economic interweaving and a 'border-crossing' perception.

An open, non-prejudiced attitude is all the more important as the success of the cross-border economic relationship, once established, is strongly dependent of the mutual trust between the partners. This was confirmed in the second analytical model reported in this paper. This model, which investigated the reasons for success of cross-border economic developments, furthermore established that similarity between partners, measured in the recognition of each other's business notions, the expected dependency and the mutual sympathy, is an important determinant in the success of a cross-border economic relationship as well.

These findings of the INTERFACE model lead to the conclusion that the development of a successful cross-border economic relationship in fact asks for the 'crossing of two borders'. Not only does the development of a cross-border relationship presuppose that the entrepreneur crosses the border of the own state into a foreign country - which may involve mental distance -, but it also assumes that the entrepreneur crosses 'a bilateral border', meaning that a successful relationship presupposes the presence of similarity and trust between the two partners.

Appendix Overview of the indicators and their dimensions

This appendix describes the indicator(s) that were used to establish the determinants in the INTERFACE model, as distinguished in this paper. An attempt has been made to reduce the total number of items to a restrained number of dimensions by means of factor analysis (Principal Component Analysis, Rotation Varimax). Dimensions are groups of items under a common denominator. The items within these groups are closely related. The following variables will be dealt with: searching behaviour, mental distance, feeling at home in the culture of the neighbouring country, border evaluation, spatial identity, attraction, interaction, and success.

Table 1 - Dimensions of relationship preference

Factors and items	Factor loadings	Dimensions
<p><i>Factor 1</i></p> <p>Preference for steady long-term economic relationships</p> <p>Preference for economic relations with a broad contact network</p> <p>Preference for conscious search for professional contacts and economic relations in the neighbouring country</p>	<p>0.794</p> <p>0.737</p> <p>0.719</p>	Networking
<p><i>Factor 2</i></p> <p>Preference for knowledge concerning the price/quality ratio of alternative partners</p> <p>Preference for higher profit, despite higher risk</p>	<p>0.744</p> <p>0.724</p>	Bold and well-informed searching
<p><i>Factor 3</i></p> <p>Preference for economic relations at short distance</p> <p>Preference for economic relations in the home country</p>	<p>0.823</p> <p>0.712</p>	Regional/national searching

Table 2 - Dimensions of mental distance

Factors and items	Factor loadings	Dimensions
<p><i>Factor 1</i></p> <p>The difference in business conventions in a relationship with an entrepreneur in the neighbouring country</p> <p>The risk of communication failures in a relationship with an entrepreneur in the neighbouring country</p> <p>The organisational adaptation consequential upon a relationship in the neighbouring country</p> <p>The difference in business habits in a relationship with an entrepreneur in the neighbouring country</p> <p>The uncertainty with regard to the compliance to working agreements with a relation in the neighbouring country</p> <p>The time required for getting to know the relation in the neighbouring country well</p>	<p>0.793</p> <p>0.737</p> <p>0.597</p> <p>0.582</p> <p>0.499</p> <p>0.482</p>	The expected discrepancy with the other's business conventions in cross-border economic relationships
<p><i>Factor 2</i></p> <p>The expected superficiality of the co-operation with a relation in the neighbouring country</p> <p>The expected transience of the co-operation with a relation in the neighbouring country</p> <p>The expected inefficiency of co-operation with a relation in the neighbouring country</p> <p>The risk that the relationship in the neighbouring country turns out a failure</p>	<p>0.776</p> <p>0.773</p> <p>0.712</p> <p>0.680</p>	The expected negative economic effect of the cross-border economic relationship

<i>Factor 3</i>		
The financial basis needed for a relationship in the neighbouring country	0.752	The stringency of the financial economic conditions set to cross-border economic relationships
The importance of a good market position of the relation in the neighbouring country	0.718	
The time needed to find a relation in the neighbouring country	0.480	

Table 3 - Feeling at home in the culture of the neighbouring country

Items	Factor loadings	Dimensions
Feeling at home in the living culture of the neighbouring country	0.926	Feeling at home in the culture of the neighbouring country
Feeling at home in the business culture of the neighbouring country	0.926	

Table 4 - Dimensions of border evaluation

Factors and items	Factor loadings	Dimensions & Cronbach's alpha
<i>Factor 1</i>		The irrelevance of the state border ($\alpha=0.87$)
Limiting	0.841	
Cost-increasing	0.829	
Impeding	0.807	
Noticeable	0.770	
Divisive	0.732	
Irritating	0.591	
<i>Factor 2</i>		The border is a barrier ($\alpha=0.78$)
Useless	0.845	
Unimportant	0.794	
Abnormal	0.695	
Artificial	0.667	

Table 5 - Dimensions of attraction

Factors and items	Factor loadings	Dimensions
<i>Factor 1</i>		Complementation
He had important business contacts and information	0.794	
He could provide good access to the market in the neighbouring country	0.785	
He had relationships with other companies too	0.771	
He had differing and interesting business notions	0.621	
A relationship with this partner would yield a better market position	0.502	
<i>Factor 2</i>		Similarity
You could get along well as persons (mutual sympathy)	0.785	
He seemed someone to be able to depend upon	0.710	
The visiting frequency with the other company was relatively high	0.505	
You could recognise his business notions	0.483	

<i>Factor 3</i> He had specific material means He could deliver the requested quality He asked a fair price	0.741 0.715 0.683	Price/quality ratio of the commodities
<i>Factor 4</i> The objective average travelling time to the other company The importance of the relatively short travelling time	-0.798 0.734	Spatial proximity

Table 6 - Dimensions of interaction

Factors and items	Factor loadings	Dimensions & Cronbach's alpha
<i>Factor 1</i> The communication between the two of you went smoothly You both knew exactly what to expect from the other When once you began the business deliberations, the personal contact with the other was informal and open	0.881 0.870 0.837	Trust ($\alpha=0.86$)
<i>Factor 2</i> Your company had to modify the production process and/or the product to come to working agreements with this partner During the deliberations the other made proposals that were disadvantageous for your company Your company had to invest in knowledge / manpower / resources to come to working agreements with this partner The business deliberations were characterised by giving guarantees and mutual safeguarding against risks	0.787 0.752 0.641 0.516	Transaction costs ($\alpha=0.60$)

Table 7 - Dimensions of success

Factor and items	Factor loadings	Dimensions
<i>Factor</i> Change in the intensity of the co-operation since the moment of transaction Evaluation of the actual success of the co-operation since the moment of transaction	0.912 0.912	Degree of success of the relationship

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