

# **SPEED AND SYNCHRONIZATION IN FOREIGN MARKET NETWORK ENTRY: A NOTE ON THE REVISITED UPPSALA MODEL**

*If you want to go fast, go alone*

*If you want to go far, go with others*

*(African proverb)*

## **ABSTRACT**

A well-established interpretation of the Uppsala model is that it predicts a slow and incremental internationalization process. Slow and incremental may be the usual outcome but it is not inevitable. Entry into a foreign market is often contingent on the firm's ability to act in the business network and exploit its newly-acquired experiential knowledge. The Uppsala model does capture a process over time, but its driving force is the causal loop between the state and change aspects in the model, which only implicitly assumes temporal episodes. We address this shortcoming by advancing two temporal concepts — synchronization and network entry speed — and incorporating them into the model. The study concludes by presenting several propositions which are intended to act as a platform for future research.

## **Introduction**

Business networks are never stable; they are dynamic and changing. Entering a foreign market's network, then, is not a question of establishing a position in a static network, but a question of synchronizing the firm's organization to the dynamics of a new and changing network. Moreover, a network is not simply a theoretical construction of research; it is the reality in which firms operate. Based on a manager's perception of the network, firms will make decisions. Consequently, internationalizing into a foreign market's network is a long process and one not taken in a single step. This makes synchronization to the dynamics of the network crucial for the firm.

A well-established interpretation of the Uppsala model is that it predicts slow and incremental internationalization and foreign market entry. Even though this process is sometimes slow and gradual, it is not an automatic outcome of the model. The firm's entry into a foreign market's network is contingent on its ability to act and react in the network and its ability to integrate and exploit the experiential knowledge it has gained. The model (Johanson and Vahlne, 2009) is dynamic and captures a process over time, but the driving force behind the model is the causal loop between change and the state aspects that drives the process. The model does, however, only implicitly assume temporal episodes. We view this as a shortcoming which we seek to address by developing two concepts — network entry speed and network synchronization — which we anchor in the revisited model's conceptualization of entry into a foreign market network. This study bases the model on the business network view (Anderson, Håkansson and Johanson, 1994), which defines networks as dynamic and perceptual, and a product of the firm's knowledge of the relationships in the network. By doing this, we develop the model so that it can explain both fast and slow internationalization, as well as regular and irregular internationalization.

Although the internationalization literature has not completely ignored the role of time (see Vernon, 1966, or Johanson and Vahlne, 1977, whose models implicitly incorporate time), it is only since the 1990s that time has been given more extensive attention. Critical to this shift was the observation that many small and medium-sized enterprises began to internationalize at a much younger age than the received theories argued, and that they were doing so at high speed (Knight and Cavusgil, 1996; Oviatt and MacDougall, 1994, 2005). From this point onwards, the concept of speed

has held a central position in explaining internationalization (Casillas and Acedo, 2013; Chetty, Johanson and Martin Martin, 2014; Prashantham and Young, 2011).

Since the 1980s, in a parallel development, the market network has emerged as an important factor explaining firm internationalization (Coviello and Munro, 1997; Coviello, 2006; Johanson and Mattsson, 1988; Johanson and Vahlne, 1990). Some studies have examined both speed and network (e.g. Belso-Martinez, 2006; Freeman, Edwards, and Schroder, 2006; Kiss and Danis, 2008; Lee, Abosag, and Kwak, 2012; Musteen, Francis, and Datta, 2010), but they have not considered the two concepts in tandem nor defined them clearly. Explanations have been based on empirical observation and lack theoretical anchorage (Chetty, Johanson, and Martin Martin, 2014), a second weakness which we seek to address.

The revisited Uppsala model views internationalization as a process where market dynamics and the activities a firm carries out in its relationships with other firms in the network have an important impact on the firm's position in the foreign market network. Time and temporality are not just components of speed and network. They can also be viewed as a consequence of the interaction between them. Thus, time is only manifested in the empirical observations when applying the Uppsala model on firms' internationalization.

Like many others, Johanson and Vahlne (2009) focus on the importance of getting inside the foreign market network (Almodovar and Rugman, 2015; Blankenburg Holm, Johanson and Kao, 2015; Hilmersson and Jansson, 2011), but there is no analysis of the dynamics of a foreign market network and the problems associated with changes within it. This is the third gap we seek to address. In light of this, the purpose of this paper is twofold:

*First*, based on the revisited Uppsala model, we aim to develop the concepts of network entry speed and network synchronization in order to better understand the temporal and dynamic characteristics of internationalization in a network perspective. We turn to the business network view (Johanson and Mattsson, 1988), which emphasizes the long-lasting business relationships between firms.

*Second*, with the help of these concepts, the paper outlines a model of how to analyze the temporal aspects of internationalization in the foreign network entry process. We argue that, from a

network perspective, speed cannot be understood without considering the firm's relationships with customers, suppliers and other actors; these relationships are a crucial part of the definition of speed. Thus, we suggest that network entry speed is the relation between network insidership and the time it has taken to develop the relationships in the network. We develop the concept of network synchronization as a tool for understanding how to deal with the dynamics of networks, which often change over time.

In order to define these two concepts, the paper is structured in the following way. We start by presenting the business network view on internationalization. The following section discusses time and process in the revisited Uppsala model, before we conceptualize network entry speed and network synchronization. We do this by integrating the concepts of speed and synchronization in a network setting. Inspired by the Uppsala model, we then present our revised version, which incorporates the temporal character of network entry. We then present several propositions based on the concepts of speed and synchronization. The paper ends with some concluding remarks, where we also highlight promising research areas for the future.

### **Speed and synchronization**

When a firm enters a new network, its speed in relation to its existing and potential customers' and suppliers' operations is crucial (e.g. Hohenthal, Johanson and Johanson, 2013). The importance of business networks for entering firms comes from the fact that it is within them that business is done, money is made, and the continued profitability and performance of the firm is shaped. In addition, business networks are not only crucial for ongoing operations. Because they form the conduits through which information flows and knowledge is gained, they are instrumental for growth and expansion, often mediating business opportunities. Finally, as business networks are long-lasting and stable, they are predictable, thus less uncertain and risky, which of course is especially essential in dynamic markets.

As the firm does not act in isolation from its customers and suppliers, the temporal adaptation and coordination (Brennan and Turnbull, 1999; Hallén, Johanson, and Seyed-Mohamed, 1991) of the activities in the network influence speed. As neither the entering firm nor the foreign market network

is perfectly stable, the firm needs to synchronize its activities to the changes in the network. Network synchronization can be viewed as a temporal coordination between two objects, which makes it an important factor in explaining how fast the firm can establish a position in the foreign market network. While both adaptation and coordination are structural concepts, and do not capture what is happening over time (Oxford Dictionary of English, 2010), we define synchronization as the process, operation or activity which enable two or more things to move at the same rate. Synchronization is especially important in a changing network (Helfert, Ritter and Walter, 2002). Adaptation can be mutual but does not have to be; firms can take measures to adapt, without their counterparts doing the same. The same is true for coordination.

### **Business network literature on internationalization**

The literature on business networks and internationalization has grown over recent decades and today holds a dominant position in understandings of firm internationalization (Evers and Knight, 2008; Hadley and Wilson, 2003; Johanson and Vahlne, 1990; Loane and Bell, 2006). Business network interpretations start with the focal firm's perception of its relationships and network. The business relationship is seen as a specific governance mode between two firms and a way to organize economic activities and to buy and sell in the market (Håkansson, 1982). One reason why relationships emerge, it is argued, is that economic exchange is embedded in interdependencies manifested by structural adaptations and co-ordinations (Hallén, Johanson, and Seyed-Mohamed, 1991). This perspective is open to the processes evolving over time in the network, as firms develop, maintain, and terminate business relationships.

The prime focus of business network arguments is on the quality of the relationships between firms and how this influences internationalization. Firms are aware of uncertainty when they enter foreign markets but are looking for opportunities. In this process, the firm, irrespective of whether it is a buyer or a seller, makes relationship-specific investments in relation to other firms. Because trust towards counterparts is growing, decisions about such investments are perceived as less risky and uncertain, which makes the firm less reluctant to commit resources and knowledge towards its counterparts (Johanson and Vahlne, 1977). Through cooperation and interaction in these business

relationships, firms share information and gain knowledge about both the market in general and their specific business relationships.

In this way, the market is understood as a set of interconnected relationships (Blankenburg Holm, Eriksson, and Johanson, 1996). This so-called network is not assumed to be stable, nor is it merely a construction of the researcher's analysis. It is a result of the firm's perception, which offers a critical dimension to the concept of network horizon. However, as changes take place and processes start to spread through the network via interconnected relationships, each specific firm begins to influence not only its customers and suppliers, but the whole network, (Blankenburg Holm, Eriksson, and Johanson, 1999). Consequently, interdependence and mutual adaptations (Johnsen and Ford, 2008) make up a system of lasting relationships between customers and suppliers that is called market (Anderson, Håkansson, and Johanson, 1994).

The network horizon is a product of how the firm perceives the network, but it does not stretch beyond what the firm can see. Consequently, there is a horizon of how far the firm can see, and we contend that the network horizon is as far as the firm can act. However, as relationships and networks develop the network horizon is not static. Especially during activities aimed at market entry, the firm redefines its network horizon by gaining knowledge as a consequence of doing business in the network and developing new relationships (Anderson, Håkansson, and Johanson, 1994). This implies that firms have bounded knowledge about the networks in which they are participating (Emerson, 1981; Håkansson and Johanson, 1993), which is partly due to the network stretching farther and farther away from the firm but also because network relationships are opaque and often invisible to outsider firms (Anderson, Håkansson and Johanson, 1994).

Entering a foreign market can be achieved in four main ways (Hohenthal, Johanson and Johanson, 2014; Johanson and Mattsson, 1988). The first is when the firm breaks already existing relationships and replaces them by establishing new ones. A second way is to add new relationships to the already existing network, which is usually done by offering a new product or introducing new ways of distributing an existing product.

A third way is for the firm to take over existing relationships in the network from another firm. With the first and second ways, the firm's new relationships cross country borders, which results in a

re-structuring of the foreign network's configuration. The third way is possible only if the firm merges with or acquires a firm that is already operating in the foreign network. It gives the entering firm a legal presence at the same time as it takes over the relationship, but it does not change the configuration of the network. We define these three entry strategies as network expansion because they entail adding new relationships to the firm's existing set of relationships and thereby extend the network horizon. Moreover, as entry is not just a single step, but a process, we see penetration of already established relationships as the fourth entry strategy. This does not necessarily lead to a redefinition of the network horizon but requires commitment of resources to established relationships.

When relationships are added, replaced or penetrated, the firm's ability to develop cross-border business relationships and to coordinate and utilize a set of interrelated cross-border relationships becomes critical. This means that network entry is a process of finding, developing, maintaining, and coordinating relationships. Regardless of how the firm enters the network, there is a need to coordinate activities such as transportation, distribution, production, storage, negotiations, and payment between the firm and the surrounding network. The activities performed by the supplier and the buyer, which are necessary for the transfer of ownership of a product from the seller to the buyer, have to be coordinated in order to make the exchange possible. This requires joint planning and communication and the coordination of activities such as production, storage, and transportation. When the firm's position in the network becomes stronger, the need for coordination increases. When the network changes, however, the firm has to modify and adapt to those change, meaning it must repeatedly synchronize to the network.

### **Time and process in the revisited Uppsala model**

The revisited Uppsala model (Figure 1) conceptualizes internationalization as a process that occurs over time and, in contrast to the original model, it proposes that learning, trust building, and opportunity development takes place in relationships with other firms in the foreign market's network. Despite its processual character, it is not the concepts per se, but the interaction between the change and state aspects of them that makes the model dynamic and leads to its capture of a process over time. The revised model does not have a fixed image of how a network might look. Thus, as the Uppsala

model does not contain any explicit temporal concepts, we aim to link time and temporality more tightly to its existing concepts.

A critical concept in the revisited model is network outsidership. We start our reasoning by suggesting that insidership and outsidership is defined as the set of direct relationships with customers and suppliers, the relationships with institutional organizations and the indirect relationships with the customers' and suppliers' counterparts the firm has developed in the foreign market.

In order to incorporate temporal concepts into the model, we make three assumptions.

*First*, we assume that the firm acts in the network based on the extent of its perception and that it cannot perceive what happens beyond its network horizon (Anderson, Håkansson and Johanson, 1994). This is a consequence of the position the firm holds in the network; the position in the network reflects interdependencies between the firm and its relationships and how the firm perceives the impact of indirect relationships. The network position, which extends from outsidership to insidership, gives the firm the opportunity to act in relation to other firms.

*Second*, although relationships are often long lasting, we assume that the network goes through both periods of stability and periods of turbulence and change. The firm is influenced by the network, but is also able to influence what happens in the network. Even though the internationalization literature pays little attention to how the network actually changes, the network is a context for change. The firm has to adapt, not only to network structure, as the Uppsala model suggests, but also, and more especially, to changes within it, as our revised model demonstrates.

*Third*, business networks are a result of firms tending to organize their buying and selling in long-term relationships, that is, through a specific governance mode, which are connected and thereby form a network (Forsgren, 2016). Thus, the focus is on the firms' relationships and not on the individuals' relations (such as entrepreneurs' and managers' social relations). We recognize the importance of social relations for the development of business relationships, but our unit of analysis is business between firms.



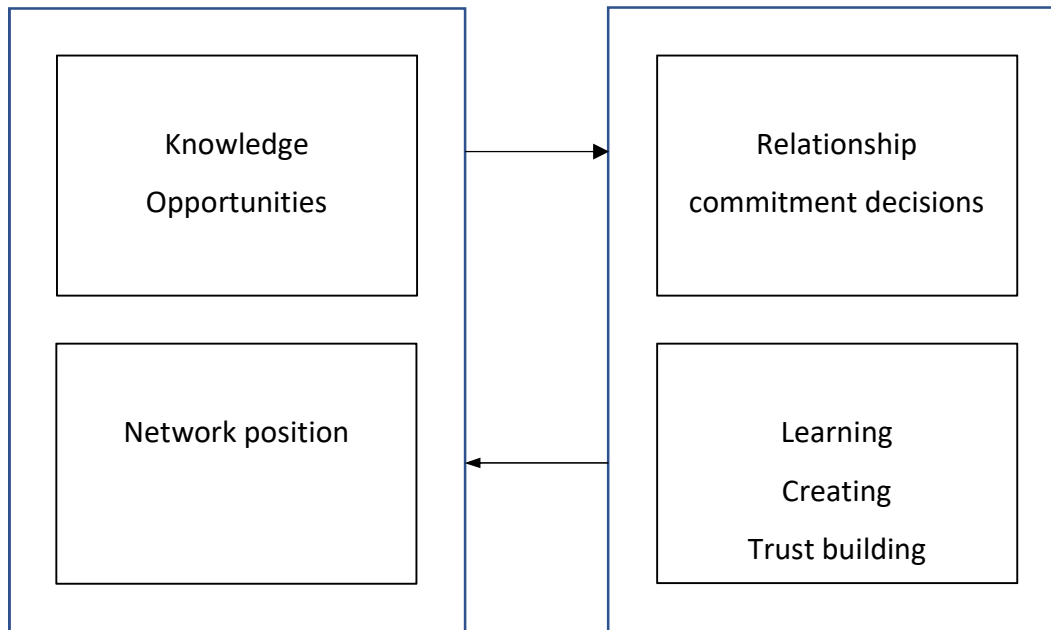


Figure 1. The revisited Uppsala model of the internationalization process of the firm

Based on these assumptions, we contend that a changing network position, where the firm goes from outsidership to insidership, reflects a process over time. The position in the specific network creates a platform from which to identify opportunity and to act in relation to other firms, but as the network is not always stable, changes may provide new opportunities. The firm makes a decision to commit to a new opportunity, thereby establishing or maintaining a relationship, which either strengthens or weakens the degree of internationalization but which also contributes to further network changes. In parallel, the firm's knowledge and opportunities represent the point of departure for a process of learning, trust building, and creating which are activities performed in the relationships. When the network is dynamic and changing, the firm's commitment to its business relationships forces it to synchronize its activities with the network, which by so doing may more rapidly strengthen its insidership position.

### **Speed of internationalization**

How fast internationalization proceeds is manifested in the literature by the concept of speed. The research on speed can be divided into two categories. The first focuses on speed *to*

internationalization, that is, how early the firm begins to internationalize (Khavul, Pérez-Nordtvedt, and Wood, 2010; Luo, Zhao, and Du, 2005; Pla-Barber and Escribá-Esteve, 2006). The second concentrates on speed *of* internationalization, that is, sustainable speed, which covers the process beyond the start of internationalization (Jiang, Beamish, and Makino, 2014; Vermeulen and Barkema, 2002). Thus, internationalization is studied from a longer time perspective. Speed to internationalization is used extensively to explain the causes for an early start, to capture why firms start to internationalize so soon after inception. This means that speed to internationalization covers a period characterized by outsidership, while speed of internationalization covers a period starting from outsidership and moving towards insidership.

In order to capture the phenomenon of early and rapid internationalization, researchers often use words like speed, pace, rapid, and accelerated. Taken from physics, the term *speed* (e.g., Acedo and Jones, 2007; Oviatt and McDougall, 2005), is used most frequently but often only metaphorically, and is seldom defined, (for exceptions, see Chetty, Johanson, and Martin Martin, 2014; Jones and Coviello, 2005), although rapidity is often used as its synonym (e.g., Freeman, Edwards and Schroder, 2006; Hurmerinta-Peltomäki, 2003).

A second increasingly popular term is *acceleration* (e.g., Shrader, Oviatt, and McDougall, 2000; Weerawardena, Mort, Liesch, and Knight, 2007), which is defined as the rate of change of speed, that is, how internationalization speed increases over time. Thus, internationalization can, during a specific period, be characterized by both low speed and high acceleration. Accelerated internationalization is mainly used to describe early internationalization, although it is seldom empirically studied (Tan and Mathews, 2015, and Johanson and Kalinic, 2016, are exceptions). More often it is used as a metaphor to describe a general change in the way firms internationalize (e.g., Pla-Barber and Escribá-Esteve, 2006).

### **Network entry speed**

When the firm enters a specific foreign market, it establishes a position in this market's network and goes from being an outsider to holding an insider position (Johanson and Vahlne, 2009). Network entry speed can be defined as how quickly the firm can gain a position in the foreign market network

(Johanson and Mattsson, 1992), which means that network entry speed is a relation between the position gained and the time it has taken to gain this position. Network position is one of the two key components of network entry speed; time is the second, and the relation between the two components makes up the concept.

As the firm enters a foreign market network, it develops relationships with other actors; through the network, the firm learns about new opportunities and thereby can expand its network (Blankenburg Holm, and Eriksson, 2000; Hohenthal, Johanson, and Johanson, 2014). Thus, we contend that insidership is a result of having developed several relationships characterized by mutual commitment. Among these relationships, the firm is likely to have business, institutional, and social relationships. But insidership is also a position from where the firm sees both direct and indirect relationships and where the indirect relationships are mutually connected and affect the firm. Thus, to some extent, an insidership position is characterized by the firm being embedded and locked into the network.

The position is stronger the sustained and robust the firm's relationships are. Strength reflects the magnitude and symmetry of the interdependence in the relationships. As interdependence is the result of a commitment to mutual investment, the greater the interdependence the costlier it is to terminate the relationship (Scheer, Miao, and Palmatier, 2015). Relationship-specific commitment tends to lead to low transferability of resources (Anderson and Weitz, 1992); if the relationship is terminated, it leads to sunk costs. We maintain that the strength of relationships is the first element of network position and is a result of the commitment to invest in a specific relationship. When strength in various relationships in a market network increases, relationships become connected to each other and the firm becomes locked in.

Most firms enter foreign markets by developing a relationship with an agent or a distributor, and then, if the business grows, they consider establishing a sales office. When a firm works with an agent or distributor, it usually has one or only a few relationships in the network, but as the business grows and it starts running its own office, the number of relationships is likely to increase. To some extent, a strong network position is associated with the development of a large number of relationships, and with it increased network complexity where relationships become interconnected. The entering firm becomes integrated into the network and embedded within it. In order to manage this

interconnectedness, the firm needs to coordinate its relationships, which cannot be treated in isolation from each other. This is especially important in turbulent times, when firms and other actors leave the network, competition increases, and new products, technologies, and distribution systems emerge. The number of relationships in the foreign market network is the second manifestation of the firm's network position. When the firm becomes more of a local actor other firms will gradually pull it into relationships simply because of its presence. This will mark a point in time when the firm reaches a critical mass of established local relationships and can be characterized as holding a network position of insidership. Based on the Uppsala model, we conclude that this is not necessarily a long-term condition since there is an inherent dynamic in state and change variables.

The number and strength of relationships in the network, captures the business in its direct relationships with the customers and suppliers, but misses the development of other, more indirect relationships, such as those with various authorities and other institutional actors, that are instrumental for market entry (Ellis, 2000; Zhou, Wu and Luo, 2007), and are especially critical in emerging and fast-changing markets (e.g. Peng and Zhou, 2005). As both business and institutional actors are of such importance, they have to be included in the concept of network position. Increased and strong relationships with institutional actors are a natural consequence of a heightened network position, but they can also drive entry. Authorities issue permissions, licenses, and quotas, and are charged with taxation, trade tariffs, and other regulatory obligations. Relationship type is also an element to take into consideration. We make a distinction between business and institutional relationships.

Finally, building on the idea that a relationship is more or less embedded in other direct and indirect relationships, it follows that the more relationships are characterized by structural embeddedness (Noordhoff, Kyriakopoulos, Moorman, Pauwels, and Dellaert, 2011; Uzzi, 1997), the stronger is the firm's network position. The network position gives access to indirect relationships and through them the possibility of growing further. However, a position in a closely-knit network may also prohibit extension if the firm's horizon is limited to only its direct relationships, as much is based on information reaching the firm from indirect relationships. Thereby, we argue that the degree of connectedness within the firm's network is increasing while the firm expands its business in the network.

Research on speed to internationalization often starts with the inception of the firm and ends when the first step of internationalization or market entry is taken, which is a short-term approach and does not cover the main period of the process. In addition, analyzing the network in a market where the firm is not active is problematic. As the business network is characterized by long-term business relationships, this approach is less suitable. In addition, the revisited Uppsala model's focus is not on what happens in the period before internationalization starts, but the process unfolding after the start, thus, the period from outsidership to insidership. This implies that time has to be taken into consideration as a component of the definition of network entry speed.

As network entry speed is the relation between network position and time elapsed, and as entry is a long-term process, we need a relevant unit to capture the process of moving from a situation of outsidership to insidership. In the literature on speed, the start of the process is usually defined as the date of the firm's inception (Coeurderoy and Murray, 2008; Khavul, Pérez-Nordtvedt, and Wood, 2010; Luo, Zhao and Du, 2005; Pla-Barber and Escribá-Esteve, 2006; Zucchella, Palamara, and Denicolai, 2007), and its end as the date when internationalization begins (Chetty and Campbell-Hunt, 2004; Knight and Cavusgil, 1996; Madsen and Servais, 1997). Our approach to network entry speed takes into consideration only what happens after internationalization has begun. This approach takes the first activity in the foreign market network entered as the starting point. In order to capture the subsequent phases of entry, we need a mechanism that measures the next steps into the foreign market and reflects the long-term development and dynamics of network entry.

We are particularly interested in post-entry speed which we define as the relation between network position, indicating the degree of insidership achieved at a specific point in time, and time, reflecting the time it has taken to gain a particular position since internationalization started. We define network position as the strength, number, type, and connectedness of the relationships perceived by the entering firm. We maintain that the concept of network position contains different types of relationships. The most obvious are the firm's business relationships with its customers, but there are also relationships with suppliers and regulatory agencies and institutions. As well, several structural properties are evident. The number of relationships and their respective strengths can change

during the entry process. We suggest that these different types of network features are also reflected in the concept of network position.

*Proposition 1: Network entry speed is defined as the quantity and quality of the relationships the firm has developed during a specific period:*

- a. The direct relationships with customers and suppliers*
- b. The relationships with institutional organizations*
- c. The indirect relationships with the customers' and suppliers' counterparts*

### **Synchronization**

Coordination of economic activities has so far been treated as a mainly structural concept (Richardson, 1972). However, temporal coordination is also needed. Entering a network require time, and it may not be stable during the entry process. We call this process of temporal coordination and matching *network synchronization*, and define it as the correspondence between the characteristics and behavior of the entering firm, on the one hand, and the characteristics and activities of the foreign market network, on the other. Synchronization occurs when the firm strives to operate and work at the same pace as the network. An example of this is in recent decades is the movement of foreign firms into emerging markets and transition economies. These two types of market network have been characterized by changing institutional and legislative frameworks, as well as by high firm turnover rates, with new customers and suppliers starting up businesses and more-established firms disappearing. These tendencies contribute to increased turbulence and rate of change. In addition, markets which are not usually defined as emerging or transition markets, can also go through periods of instability. During a recession or a period of widespread technological change, when new products and technologies are being adopted, foreign firms entering the market also need to adopt synchronization strategies.

The history of the concept of synchronization began in the 17th century, when the Dutch scientist Christiaan Huygens happened to observe the synchronization of two pendulums, which he had hung on a wall shortly before (Rosenblum, and Pikovsky, 2003). Synchronization can be

described as to the gradual coordination of the rhythm between two objects that move independently of each other. Thus, if the interaction between the two objects is weak and the pendulums continue to move with a different rhythm and pace, someone must act so that the pendulums are synchronized. Transferring this metaphor to networks and internationalization implies that firms adapt, coordinate, and match their activities so that in time they correspond to the natural ebb and flow of business taking place in the foreign market. As we view the market as a network of exchange relationships, synchronization takes place between firms in a setting where they are connected through various relationships.

### **Network synchronization**

Synchronization takes place when one or more firms in different ways strive to move together and, consequently, network synchronization precedes synchronicity, which occurs when the entering firm's strategy and behavior follows the same pace and rhythm as the network that the firm is entering. In order to simplify, we use the term *economic activities* to capture what firms do in a business network. Activities are necessary in order to produce products and services that can be bought and sold in the market, and we contend that changes taking place in both direct and indirect relationships are spread across the network. They can be of a different character, such as business, financial or institutional. They can be extensive yet impossible for the firm predict, or they can be well anticipated but smaller. Synchronization aims to achieve a match within a network and between relationships within that network. We argue that there are two main aspects of network synchronization which may have an impact on internationalization: temporal order and context of network synchronization.

*Proposition 2: Network synchronization is when economic activities in two or more relationships are matched so that over time they move together.*

In some networks the first activity is the prerequisite to perform the second activity; that is, if the first activity is not performed, it is not possible to perform the second activity. A change that is based on a previous change must in theory be preceded by a manifested result of that change, that is, the changed

state must be demonstrated before the next change can take place. Consequently, one critical dimension of synchronization is the order in which the activities or series of activities is performed in and between relationships. This requires that the activities follow each other in sequence. An example of this is when a bus leaves its stop outside a train station five minutes after the train has arrived, thus giving connecting passengers a fair chance to catch the bus. The value of bus transportation for passengers decreases if the train cannot get to the station so that passengers can change their mode of transport. The time needed between these connecting activities can be different, but the point is that their order in time is crucial for the value of the activities performed. We can therefore label this *sequential synchronization*, which is illustrated by the four bold lines in the lower part of Figure 2. This illustration visualizes four relationships which are interdependent but follow each other. Even if the firm in the middle does not have any direct interface with the first or fifth firms, changes such as new product design, new payment systems or the replacement of one of the firms with a completely new firm, can have a series of knock-on effects that are likely to influence its synchronization.

When we think about synchronization we usually have in mind *simultaneous synchronization*. That is, the core of the concept and its original meaning. When Huygens observed the synchronization of the pendulums, they were moving simultaneously. In a network setting, for the ongoing operations in business relationships, it is in many cases crucial that various activities are performed simultaneously. Such a situation is visualized in the left-hand corner of Figure 2 by the dotted lines and circles, where three firms are depicted as suppliers to the firm in the dotted circle. A good example of this is that the value and enjoyment of a movie is much higher if the picture and sound are synchronized. A similar example, also taken from the movies, is when groups of thieves or detectives synchronize their watches in order to act at exactly the same moment, even when they are not in immediate contact or communication with each other. When changes in a relationship take place, they often affect, for instance, parallel suppliers or customers.

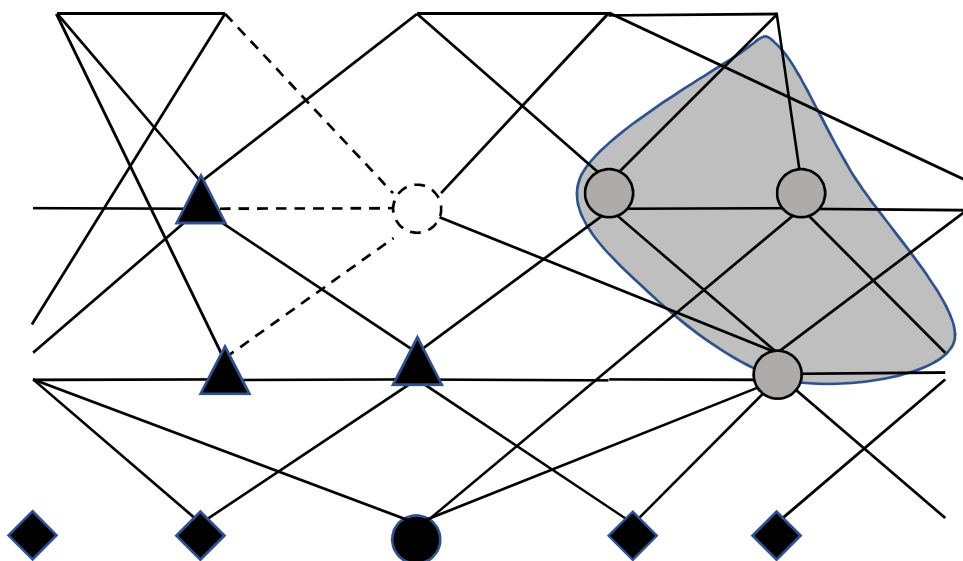
*Proposition 3: There is a difference between sequential synchronization, which concerns activities and relationships that follow each other in a particular order in the business network, and simultaneous*



*synchronization, which concerns activities and relationships that move together but do not have any direct interface or contact.*

### *Context of network synchronization*

In the previous examples, where simultaneous and sequential synchronization were discussed, no more than four or five firms were involved. Based on these observations, assuming that the relevant network is what the firm perceives, rather than what the outside observer can analyze, the context of network synchronization is important. Business networks demand that, in order to run economic activities without disturbances and disruptions, some activities must be performed sequentially or simultaneously. When synchronization concerns the context within the firm's network horizon, we can usually talk about *system synchronization*. In cases of change in the network, the firm needs to be active in order to synchronize the system. From this it follows that both the work to manage change, through interaction and cooperation with other firms within the network horizon, and the results of the work have to aim at system synchronization. This type of synchronization is more common the stronger the position of the firm, largely because a strong network position often leads to a wider network horizon. Figure 2 exemplifies this with the shaded area where a focal firm, represented by the circle, can see only a part of the whole network. Moreover, we also expect that the more drastic the changes, the more firms and organizations have to interact and adapt in order to achieve system synchronization.



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Figure 2. Simultaneous and sequential synchronization in a network setting

In addition, when changes in an activity performed by a customer or a supplier are not spread beyond the business relationships, we can label this *partial synchronization*. This is when the activities in the dyadic business relationships are synchronized but are isolated to the relationship between the two firms and have no effect on the surrounding network. As an entering firm tends to have initially only a few relationships, partial synchronization tends to be necessary in the early entry stages, when its network position is weak and its horizon narrow.

*Proposition 4: There is a difference between system synchronization, which concerns the whole business network, and partial synchronization, which concerns relationships between separate firms and organizations.*

### **Mechanism of synchronization and speed of entry**

In the revisited Uppsala model, three concepts act as cornerstones: knowledge, opportunity, and commitment. As they are important aspects of the business network the firm is entering, they are essential when temporal concepts are added (see Figure 3). The original model advances the idea that market knowledge (Johanson and Vahlne, 1977), which is gained from the experience of acting in the market, is the key to finding opportunities, and more importantly, to reducing perceived uncertainty, consequently making the firm less reluctant to commit additional resources to the foreign market. The revisited model, adopts a similar line of reasoning but places it within a network setting: acting in the network results in network knowledge (Hohenthal, Johanson and Johanson, 2014), which stimulates the firm's tendency to commit to existing and potential relationships.

The relation between knowledge and synchronization is critical. How firms perceive their network influences what they view as opportunities and problems. What is happening beyond their horizon is not possible to comprehend, but the development of relationships within the horizon, and thus, what they know about the network, guides their attempt to synchronize to the network. In

addition, firms gain experience from doing business in the network. The more heterogeneous the activities and the longer the duration in the network, the more experience is gained. However, going from experience to experiential knowledge does not take place instantly. Firms have varying abilities to transform experience into useful experiential knowledge; it is the knowledge rather than the experience which is instrumental for network synchronization. Thus, the speed of experiential learning from synchronization is critical for network entry speed, which means that synchronization explains the dynamics of the model and why it occurs. It drives change and exposes the firm to opportunities.

Recognizing and exploiting opportunities are components of network synchronization. Opportunities either strengthen existing relationships or build new ones. But often there is a lead time between recognizing something that could be viewed as an opportunity and subsequently exploiting it. This process is contingent on how the network changes, and to what extent it is possible to achieve network synchronization. Consequently, it takes time to make both knowledge and opportunity instrumental for the entry process. This period is associated with network synchronization, the extent to which the firm and its activities match the dynamics of the network. This argumentation is in line with time compression diseconomy (Jiang, Beamish and Makino, 2014; Vermeulen and Barkema, 2002), where the argument is that too much gained experience and too many recognized opportunities during a specific period may have a destructive impact on network synchronization and consequently also on network entry speed.

We link synchronization to a commitment to the relationships in the network. When the activities performed in the relationships between firms in the network are matched, synchronization works to strengthen the mutual commitment. Thus, synchronization requires that the parties make decisions on investing resources in order to achieve synchronization. This is especially important when the network changing, which may lead to both new investments and additional sacrifices. Consequently, if a relationship is characterized by extensive mutual commitment to this linked synchronization, it may be difficult to be flexible and to follow the changes in the surrounding network.

### **Network synchronization and network entry speed**

Network synchronization is about matching activities performed in various relationships over time. Our point of departure is that any economic activity more or less influences other relationships in the network and that a temporal mutuality between firms and activities in the network exists, which gives rise to the need for synchronization. Because networks are dynamic, synchronization is not something which is eternal, but needs to be constantly maintained. Achieving synchronization is made more difficult and costly in a network that is changing extensively and regularly.

Moreover, internationalization literature views uncertainty in a market as a critical factor for entry (Hilmersson and Jansson, 2012). We contend that the extent to which the firm can predict or control the changes it experiences as it enters a new market is a factor in network synchronization. In times of change, the network requires that firms synchronize and match their activities; an open and frequent interaction tends to facilitate synchronization, as it can help the firm to predict changes and thereby prepare for them. Matching plans and jointly planning for synchronization are essential ingredients. The step from change to synchronization can also be handled if the firm focuses on what is possible to control, at least partially, such as its communication with customers and suppliers. By extending its network horizon, the firm can gain information about more distant relationships, which can be used in order to control direct relationships, as well as to learn earlier about the sources of the changes.

Entering a network is not a matter of entering something that is standing still but rather following the rate of the changes in the network in order to gain a position. Thus, the foreign market network can be viewed as a moving target. A dynamic and changing network and a static firm, or vice versa, leads to a mismatch, which hampers the development of relationships with customers and suppliers, and drags out the entry process. If, however, there is a good fit between the entering firm and the foreign market network, so that the firm achieves a timely synchronization between its activities and the activities taking place in the network, it is more likely that entry could be carried out at a high speed. We therefore argue that network synchronization has a positive influence on network entry speed.

*Proposition 5: The firm's synchronization in the business network influences its entry speed into the foreign market's network.*

Network entry speed builds on the idea that it is the quality and quantity of the relationships that determine the firm's network position and that, consequently, the firm has to be involved both in adding relationships to its relationship portfolio and in making those relationships deeper and closer. This, in turn, requires coordination and that the firm treat each relationship in isolation. When changes take place in one relationship, the solutions are not only to be found in the relationship itself, but in other relationships in the network, and the more the firm synchronizes its response to the changes taking place around it, the more it can strengthen its network position. Simultaneous synchronization refers to economic activities occurring or being performed at the same time in the network, but without having a joint interface or following each other in a specific order.

Sequential synchronization, on the other hand, takes place when economic activities or events follow each other in a particular temporal order and is particularly a feature of direct relationships, although it can take place in relationships beyond these. When this happens, when changes in sequential synchronization occur beyond the direct relationships, the implication is that these changes are channeled through the direct relationships. Finding solutions, therefore, is less about improving the coordination between relationships and the addition of new relationships and more about reexamining and adjusting the direct relationships. Sequential synchronization has therefore a greater effect on the quality of the relationships, and not their quantity. This leads to the conclusion that when the firm synchronizes to the changes taking place in the network during a specific period of time, simultaneous synchronization has a stronger influence on network entry speed than sequential synchronization.

As in the case of direct relationships, the firm can interact with its counterpart and thereby achieve sequential synchronization. As synchronization requires control and knowledge, it is easier to react instantly to changes in direct relationships than to changes taking place in other parts of the network. It is also easier to react when the firm only has to incorporate one or two relationships in the synchronization process. Moreover, having knowledge about the network is essential both for reacting to changes and identifying opportunities. Thus, we contend that synchronizing simultaneously is more complex and requires deeper and more extensive knowledge than synchronizing sequentially, although simultaneous synchronization has a stronger effect on network position.

*Proposition 6: Sequential synchronization in the business network has a weaker influence on network entry speed than simultaneous synchronization.*

Many activities are, of course, performed one after the other in the ongoing operations of the network, but most of them do not require any synchronization. For instance, we cannot eat mashed potatoes until the potatoes have been dug up, but the need for synchronization is small. Therefore, we argue that sequential synchronization can be placed somewhere on a continuum from separated sequential synchronization to integrated sequential synchronization, where the need varies and where changes and turbulence have various effects on synchronization.

*Proposition 7: Integrated sequential synchronization in business networks has a stronger effect on network entry speed than separate sequential synchronization.*

Because we assume that the network may change for the firm in both a predictable and a non-predictable way, our model suggests that the firm will sometimes proactively and sometimes reactively synchronize to the changes taking place in the network. Proactive synchronization can be defined as preparation for change by synchronizing, not to the current situation but to the changes expected to take place in the network. The firm acts based on what it perceives and the knowledge it has but takes steps in order to handle a changed future network. In some cases, the changes will be predictable. They may concern, for instance, planned institutional and political changes, and will give the firm the ability to proactively initiate synchronization to these changes. Other changes may be difficult or even impossible to predict, for instance those which have their origins outside the firm's network horizon, where the firm's synchronization will be of a rather more reactive nature. In general, we expect that the more proactive the synchronization the more even the firm's network entry speed. On the other hand, a turbulent network where changes are unpredictable tends to cause reactive synchronization where the network entry speed accelerates and decelerates irregularly during the process.

*Proposition 8: Proactive synchronization to the business network is likely to lead to an even and regular network entry speed, while reactive synchronization can be expected to result in an acceleration and deceleration of network entry speed.*

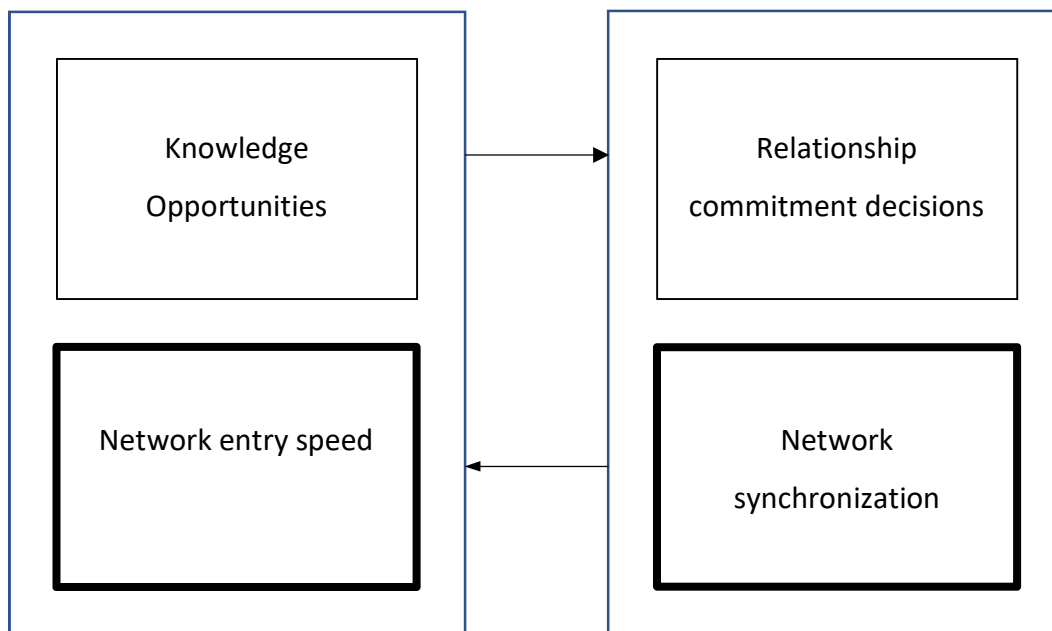


Figure 3. Network synchronization and network entry speed

### **A note on time in the revisited process model**

Three concepts are essential for our thinking about the Uppsala model, namely knowledge, opportunity and commitment. We believe that they relate to network synchronization and network entry speed. We view synchronization as a change aspect, which thereby therefore has an influence on the state aspects, and which by synchronizing, the firm can identify opportunities and gain knowledge about the network so as to influence its network position.

### *Commitment, knowledge and opportunity*

Commitment to the network is both a starting point for the firm's network synchronization and a result of it. As firms invest resources in their network relationships, and make sacrifices to build and

maintain these, so their synchronization to the network develops. And as their connectedness to the network grows, so does their commitment to it. The decision to commit resources to the network leads to relationship-specific investments, which in turn implies the exclusion of other networks and relationships. Of course, the firm cannot synchronize without costs, but synchronization has also strategic component, as it is a choice between strengthening the firm's network or terminating and weakening its relationships. In order to strengthen its commitment to the network, the firm may either penetrate the existing network or expand the network in order to meet the changes in the network. In both cases, the decision to commit to the network, in order to synchronize to it, leads to lock-in effects. Such effects will in turn provide a framework for the accumulation of experiential knowledge and opportunity development, as the firm will primarily develop its business in the network and thereby maintain its network. Learning about or identifying opportunities beyond the network horizon will be largely the result of good luck. However, synchronizing to the development of the network may also entail the decision to de-commit to relationships and, in extreme situations, the decision to terminate relationships. As any one relationship involves a history of resource investment, it follows that synchronization causing de-commitment is likely to lead to sunk costs, because the resources are of less value outside the relationship. Consequently, network synchronization makes both commitment and de-commitment decisions possible, which has an effect of how rapidly the firm enters the foreign market network.

The literature on internationalization argues that there is a relationship between speed and knowledge (Jiang, Beamish, and Makino, 2014; Vermeulen and Barkema, 2002), which corresponds with the reasoning of the revisited model. As we view internationalization as a process, we contend that this is not linear, but complex and ambiguous. We think that there are two lines of argument which are compatible with the model. The first states that firm internationalization changes speed; it accelerates and decelerates according to the rate at which the firm gains, absorbs and integrates knowledge. Change of network entry speed is a result of learning in the network, but as the network goes through phases of change, dynamic and turbulence, neither learning nor speed follow an even path.



A second argument refers to the firm's ability to absorb knowledge and integrate it into its organizational structure and routines. When the network changes, the firm needs to gain knowledge in order to synchronize to the new conditions. Its capacity to integrate new knowledge, however, is not endless. A turbulent network can provide a firm with valuable new knowledge, although this can be overwhelming, and the energy spent on synchronizing in this context will not influence network entry speed. The accumulation of experiential knowledge can help alleviate this process, but most firms can acquire only a limited volume of new knowledge during a specific period of time. Too much new knowledge will force the firm to slow internationalization down, or will have a destructive influence upon the process. Consequently, too great an emphasis on network dynamics and too much network synchronization will stretch the firm to the limits of its full learning capacity. In this case, the firm has either to slow down its entry speed or allow the acquired knowledge to have a destructive effect on its organizational structure and routines.

Developing an opportunity is a process which stretches from identifying, deliberately or non-deliberately, to exploiting a new and valuable combination of resources and economic activities. The novelty of the opportunity implies that something is changing in the network; opportunity development drives processes in the network. Developing opportunity may lead to a penetration of the existing network and thus strengthen the already established relationships. As this is a process taking place in an existing context and within the boundaries of the firm's network horizon, it is likely that several firms and organizations are involved, which, in turn implies that the opportunity development is characterized by co-creation. In addition, such opportunity development does not happen in isolation and as co-creation of opportunities causes change, network synchronization is a prerequisite.

Developing opportunities is connected to network synchronization in two main ways. Opportunity occurs in the nexus/interface between the development of the network and the firm, so when the firm identifies new and valuable 'things' in the market it is connecting its network synchronization to the process taking place in the network. To some extent opportunities emerge when the network is not in a state of synchronicity. In addition, we contend that most opportunities developed in a network setting are co-created together with other firms in the network. The importance of network synchronization for commitment, knowledge and opportunity is especially strong when the

network changes. Commitment tends to cause stability. Knowledge is more useful when conditions in the network are stable, while opportunity is an effect of changes in the network. Consequently, when the network is dynamic and turbulent, it promotes the need to synchronize.

### **Managerial implications**

This leads to the conclusion that there are mainly four strategies the firm can pursue. One difference between the strategies at any moment of time is the decision to focus either on penetration of the network, where the firm is already active and has established relationships, or expansion within it by adding new relationships. We maintain that these strategies can be combined with either proactive or reactive synchronization, which gives four alternatives when firms enter foreign market networks. As the firm's resources are limited, deciding where to use and to what use the firm should commit these resources is paramount. Both expansion and penetration require a commitment of resources to the foreign market's network, which to some extent makes them mutually exclusive. In a similar way, proactive and reactive synchronization both imply a commitment of resources to the network, but as they differ in terms of when to make the resource investment to adapt and match to the changes in the network, they come with different risks. Proactive synchronization seems to be riskier, as it is characterized by synchronization to changes that may happen, while reactive synchronization is simply a response to what has already taken place in the network.

When firms penetrate foreign market networks by proactively synchronizing, they commit additional resources to specific existing relationships. This takes place within the firm's network horizon and the synchronization concerns changes which are expected to take place. This implies that the firm can make predictions and plan for any proposed synchronization. Strong relationships where firms share information and work closely together increases the likelihood that as partners they can predict and manage the changes within the boundaries of their relationship, but also share both the costs and benefits of synchronization. In most cases, this makes the relationship stronger.

The second alternative is a combination of reactive synchronization and penetration of the firm's already existing relationships and networks in the foreign market. As it is a reactive response, the firm is likely not prepared for the new knowledge it has acquired nor for the changes it must now

implement. The source of this knowledge is probably located outside the firm’s network horizon or is an unanticipated event taking place in the existing network. Another alternative is that either the weaknesses of the relationship or an asymmetrical power balance in the relationship gives one of the firms the ability to unexpectedly enforce its counterpart to reactively synchronize and commit resources in order to further penetrate the relationships.

Expanding the network and proactive synchronization is how we often view internationalization. In this process, the firm is able to make predictions about the foreign market and to act proactively in order to find new customers and suppliers and to develop relationships with them. It also implies that the firm is able to extend its network horizon, although this requires that the firm possesses knowledge, which can give it the platform to proactively synchronization.

The fourth strategy combines expansion and reactive synchronization. Expanding the firm’s network is a result of adding new relationships with customers or suppliers to its existing network. As the firm taps into new sources of knowledge it also extends its network horizon and may gain new knowledge. However, as this is a consequence of reactive synchronization, its causes are likely to be non-predictable. Consequently, new customers and suppliers are identified and added through discovery and luck.

	<i>Proactive</i>	<i>Reactive</i>
<i>Expansion</i>	3	4
<i>Penetration</i>	1	2

Figure 4. Alternative entry strategies

**Concluding remarks**

Extant internationalization literature assumes that cultural and institutional distance comprises the main obstacle for firms’ entry into foreign markets. Markets may be different, but distance is generally considered to be a stable variable, as are the existing networks. Recognizing that markets are not

always stable, but can be dynamic and changing, has consequences. As entry into a foreign market network is a process that takes place over time, there is a need for the firm to make the activities it performs fit with those of its customers and suppliers in the network. Products and technologies are developed in the network, firms enter and leave the network, and relationships are established while others are terminated. Because the relationships in the network are connected, a change in one economic activity is more or less connected to other activities performed in other relationships in the network.

In order to capture this, we introduce the concept of network synchronization and separate the temporal order of ongoing activities, simultaneous and sequential synchronization, from coverage of changing activities, partial and system synchronization. We think that there is room for more research on the relationship between the two concepts. From this it follows that the network dynamics call for more or less synchronization and make it more or less difficult to achieve synchronized network activities. An intriguing research direction would be to look for the causes of synchronization. A dynamic network requires ongoing and continuous synchronization, while in a stable network it may be enough to synchronize less often. We argue that it is only when synchronization prevails that the firm can develop several strong relationships, and the more quickly the synchronization is achieved, the higher the speed of the firm's entry into a foreign market network will be.

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