

ORGANIZATIONAL NETWORKING: SCALE CONSTRUCTION, VALIDATION AND GENERALISABILITY IN MANUFACTURING AND SERVICES SECTORS

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Abstract

This study operationalizes the construct of organizational networking. We have set out three objectives. First, a critical evaluation of the existing studies was carried out by examining their definitions and dimensions of the construct, use of the network characteristics, and research design. Secondly, based on a four-dimensional view of organizational networking, information acquisition, opportunity enabling, strong-tie resource mobilization, and weak-tie resource mobilization, an item pool was generated and subjected to a three-step qualitative pre-test. A web-based survey was subsequently implemented, and the valid responses were subjected to a rigorous scale validation process. The final objective was to examine whether the scale is applicable across manufacturing and services sectors. Our scale validation process confirms the four dimensions of the measurement model and further provides support for the distinctive nature of all dimensions that tap into different ways of organizational networking by firms. We establish the generalizability of the four-dimensional organizational networking scale between the manufacturing and services sector. The organizational networking scale will provide future research a basis for further establishing a stronger generalizability and explore its role in relation to other organizational behaviors and outcome variables, such as firm performance.

Keywords

Organizational networking, network management, industrial network perspective, strong and weak ties, scale development

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INTRODUCTION

The implications of firms being embedded in business networks have been well established, suggesting that their network of relationships enables firms to identify opportunities, access rich information, and undertake effective and efficient knowledge transfer and resource mobilization (Finch, Wagner & Hynes, 2012; Kogut, 2000; Mouzas & Naudé, 2007; Uzzi, 1996). From a network structure perspective, achieving a ‘beneficial’ network position that allows firms to explore business opportunities, is critically important (Baum, Cowan & Jonard, 2013; Hagedoorn, Roijackers & Van Kranenburg, 2006). On the other hand, when viewing this proposition from a firm’s perspective, how to increase its competitiveness through consciously changing its network position and utilizing resource synergies identified in their networks becomes a pressing but complex issue.

Given the importance of this issue and its potential implications for practitioners operating in business markets, the current literature is still short of empirical studies that investigate the scope and the content of network management. Academics in business-to-business marketing have attempted to conceptualize and operationalize different perspectives of network management from the vantage point of a focal firm; this was mostly based on a dynamic capability perspective (e.g. Mitrega *et al.*, 2012; Ritter, 1999; Walter, Auer & Ritter, 2006). This approach has deepened our understanding of how firms can efficiently and effectively manage their relationship portfolio by developing and establishing internal processes of dealing with multiple direct relationships simultaneously. However, there is an underdeveloped yet steadily growing stream of research focusing on the strategic aspect of outward-facing *networking behaviors*, which are employed by firms to understand the network dynamics and capitalize on them based on their perceptions of the network. Recent studies have contributed to the conceptualization of organizational networking, which establish the essence of such behaviors through the theoretical lens of the industrial network approach (INA) (Ford & Mouzas, 2010; 2013; Håkansson *et al.*, 2009). In addition, economic sociology embedded in the wider social exchange theory has provided some evidence to indicate the strategic implications of utilizing different types of relationships in relation to firm performance from a structuralist perspective. However, further research is needed to understand the implications for a focal firm of being embedded in a network, and the motives behind their strategic behaviors in terms of networking in response to network dynamics. To date the status of this research stream still remains largely conceptual, and it is still in need of empirical research to further advance our understanding of organizational networking. Particularly, a *scale for measuring organizational networking behavior* will enable future studies to advance our understanding of the implications of such a construct in relation to other existing organization behavioral constructs and outcome variables (e.g. firm performance).

The objective of this study is threefold. First, we will analyze the conceptualizations afforded by the existing studies based on their definitions and dimensions, network characteristics concerned, and the research design adopted. Secondly, we will operationalize organizational networking based on the conceptualization from an existing study. Thirdly, we utilize a multiple-sample approach to cross validate the developed scale in order to ascertain as to whether the scale is generalizable in different contexts as the existing studies mostly employ a single-case

study approach. This paper is organized as follows. First, we review, compare and contrast the existing organizational networking studies in the literature. Secondly, a two-stage research design for the scale development will be introduced, and the data analyses and findings will be presented. Finally, we will conclude with a discussion of our findings, contributions to the existing literature, and limitations and future research direction.

ORGANIZATIONAL NETWORKING

Networking as a concept has been commonly used at a personal level to reflect the set of social skills of a person (e.g. owner of a firm) to leverage his/her social relations in order to benefit from them (e.g. Chetty & Campbell-Hunt, 2003; Ferris *et al.*, 2007; Jaklic, 1998; Semrau & Sigmund, 2010). However, we focus our discussion on *organizational networking*. We acknowledge that networking behaviors are initiated by actors (e.g. managers), but the interactions, exchanges of information, activity adjustments and resource mobilizations are at the organizational level. We are interested in the strategic aspect of organizational networking (in line with the INA), and therefore we refrain from studying personal networking in business (such as in the area of entrepreneurship and SMEs). We therefore collated studies that specifically focus on the conceptualization of organizational networking to form the basis for the discussion and analysis. Table 1 contains an overview of conceptual as well as qualitative and quantitative empirical studies on the conceptualization of organizational networking as well as some closely related concepts, such as strategic network capabilities (Hagedoorn *et al.*, 2006) and network strategizing (Holmen & Pedersen, 2003). While most of the studies concerning organizational networking are built on the theoretical foundation provided by the INA, the empirical study by Hagedoorn *et al.* (2006) draws on the extant literature in strategic management, and Thornton, Henneberg & Naudé (2013) utilize the INA coupled with the notion of embeddedness linked to economic sociology.

Table 1 Conceptualization of Organizational Networking

Definition	Dimension(s)	Level of network	Empirical base
Networking as managing relationship portfolio (Ebers, 1997) <i>A particular form of organizing, or governing, exchange relationships among organizations</i>	<ul style="list-style-type: none"> The content of relationships Relationship governing mechanisms 	<ul style="list-style-type: none"> Relationship 	<ul style="list-style-type: none"> Conceptual
Networking as changing the nature of interactions (Ford & Mouzas, 2013) <i>Business networking is the conscious problem-driven attempts of one or more business actors to change or develop some aspect(s) of the substance of interaction in relationships in which they and others are involved.</i>	<ul style="list-style-type: none"> Confront/conform within single relationships Create/consolidate between different relationships Coerce/concede in relationships 	<ul style="list-style-type: none"> Relationship Small world Wider context 	<ul style="list-style-type: none"> Single-case study with single-unit of analysis Case: Procter & Gamble (P&G) in Germany
Networking as changing relationship patterns (Smith & Laage-Hellman, 1992) <i>Connections that are governed by the actor's own will, attitude, ambitions and perceptions.</i>	<ul style="list-style-type: none"> Transformation patterns <ol style="list-style-type: none"> Avoidance Flanking Combination Bridge Displacement Separation Blocking 	<ul style="list-style-type: none"> Relationship Small world 	<ul style="list-style-type: none"> Single-case study with single-unit of analysis Case: an engineering consumables supplier in the UK
Networking as coordinating multiple parties in a network (Holmen & Pedersen, 2003) <i>The ability of a firm to initiate and react to changes in the network in such a way that the firm keeps on being valuable to the network.</i>	<ul style="list-style-type: none"> Mediating functions of a firm's direct counterparts <ol style="list-style-type: none"> Joining Relating Insulating 	<ul style="list-style-type: none"> Relationship Small world 	<ul style="list-style-type: none"> Single-case study with multiple units of analysis Case: an electronics manufacturing firm in Scandinavia Multiple informants (16)
Networking as sensing and capitalizing on the network (Thornton <i>et al.</i> , 2013) <i>Activities/routines/practices, which enable firms to make sense of and capitalize on their networks of direct and indirect relationships</i>	<ul style="list-style-type: none"> Information acquisition Opportunity enabling Strong-tie resource mobilization Weak-tie resource mobilization 	<ul style="list-style-type: none"> Relationship Small world Wider context 	<ul style="list-style-type: none"> Single-case study with multiple units of analysis Case: UK manufacturing sector Multiple firms (15) – multiple informants (2-3)
Networking as positioning in the network (Hagedoorn <i>et al.</i> , 2006) <i>Firm-specific partnering capabilities that enable a company to place itself in a particular position in a broader network of partnerships with multiple companies.</i>	<ul style="list-style-type: none"> Strategic centrality-based network capabilities (network positioning) Strategic efficient-based network capabilities (network transforming) 	<ul style="list-style-type: none"> Relationship Small world 	<ul style="list-style-type: none"> International pharmaceutical biotechnology industry Secondary quantitative data of 1325 R&D partnerships from 230 companies.

DEFINITIONS AND DIMENSIONS

Organizational networking has been conceptualized in slightly varying forms by the studies listed in Table 1. Smith & Laage-Hellman (1992) and Ford & Mouzas (2013) (also see Ford & Mouzas, 2010; Håkansson *et al.*, 2009) see networking in a similar vein and conceptualize it as actors' attempts to change the content and pattern of the interactions. They do, however, differ in the dimensions identified to capture organizational networking. The former utilizes a triad approach to illustrate different types of connection patterns as the result of actor-centered efforts to change the relationship formation, while the latter predominately focuses on the idea of networking as a means for 'problem-coping' by changing the content and direction of the interactions. Ford & Mouzas (2013) define networking as "the conscious problem-driven attempts of one or more business actors to change or develop some aspect(s) of the substance of interaction in relationships in which they and others are involved" (p. 436). Networking is thus the process of making choices when firms are faced with problems of dealing with complex networks. They further argue that "the conscious attempts to change the structure or process of interaction and the unplanned outcomes" (p. 436) should be clearly distinguished. In this school of thought organizational networking is a problem-driven process without specific outcomes that can be pre-specified.

On the other hand, Ebers (1997), Holmen & Pedersen (2003) and Thornton *et al.* (2013) provide an overlapping view in their treatment of organizational networking. These three studies explicitly inject the strategic intent in their conceptualization, emphasizing resource mobilization and information gathering as the key motives of networking. Under this perspective organizational networking, based on a focal firm's strategic intent, takes into account the cognitive process of actors as they consciously act/react, with certain anticipated effects in mind. Firms thus consciously interact with their direct, indirect or new interacting counterparts. Interestingly, this way of thinking has a conceptual similarity with the study by Hagedoorn *et al.* (2006). Their study, adopting a dynamic capabilities approach coupled with a social network perspective, proposes two key dimensions for capturing a focal firm's strategic networking, which mainly tap into network positioning and relationship portfolio management for the purpose of maximizing useful information and resources afforded by its network. However, the actor's cognitive process and the interactive nature of organizational networking are not at the center of their conceptualization.

We partly agree with Ford & Mouzas (2013) that networking outcomes are unpredictable, but that firms act/react based on the anticipated outcome of networking, rather than purely 'problem-driven'. Although the strategic intent, which is guiding networking behaviors, does not necessary force the anticipated outcome to be realized, networking behaviors are nevertheless planned and acted upon actors' perception of the network dynamics and the anticipated effects they wish to achieve. In addition, the recent empirical study by Thornton *et al.* (2013) incorporates the idea of tie strength, originating from economic sociology, in their conceptualization of organizational networking. This has resulted in slightly different yet complimentary dimensions being identified compared to that of Ebers (1997) and Holmen & Pedersen (2003). Their empirical data suggests that strong- and weak-tie relationships have different utilities for a focal firm, and these differences are reflected in the networking dimensions they identified, namely *information acquisition, opportunity enabling, strong-tie resource mobilization and weak-tie resource mobilization*. These four dimensions encapsulate "activities/routines/practices, which enable firms to make sense of and capitalize on their networks of direct and indirect relationships" (p.

2). Although these behaviors are all based on the interactions that take place in either established or less established relationships, the authors argue that the four dimensions are conceptually distinctive from one another, and that the different purposes guide firms to undertake different forms of networking.

LEVEL OF NETWORK CHARACTERISTICS

Ford & Mouzas (2013) propose a three-level framework, i.e. relationship, small world (including direct and indirect relationships) and wider context, for analyzing organizational networking. This approach echoes Hagedoorn's (2006) three levels of embeddedness, i.e. dyadic, interorganizational (including direct and indirect relationships) and environmental embeddedness with the exception that the latter make a distinction between macro (e.g. country) and meso (e.g. industry) level of the environmental embeddedness. Although this way of analyzing networking has deepened our understanding of firms' behavioral patterns under the context of being embedded in a network context (Zaheer, Gözübüyük & Milanov, 2010), firms themselves act/react to the network changes based on their perception of the network, also known as the 'network pictures' (Corsaro *et al.*, 2011; Henneberg, Mouzas & Naudé, 2006; Ramos & Ford, 2011). Academics taking an INA approach argue that actors have limited cognitive ability, and therefore they can only understand the complex network in an idiosyncratic manner, i.e. they choose their own 'network theories'. This makes the boundary of individual firms' perceived networks completely arbitrary (Anderson, Håkansson & Johanson, 1994; Holmen & Pedersen, 2003). However, firms usually are more aware of their close network context compared to aspects further afield, and there is always an 'unknown' (or less-known) part of the network. Nevertheless, through interacting with their counterparts, firms are able to understand those unexplored areas of the network (Jack, 2005; Thornton *et al.*, 2013). It is therefore important to assess the organizational networking studies based on their conceptualization, incorporating the network structure characteristics, such as the interconnectedness and embeddedness. We thus determine at which level(s) these organizational networking studies are operating, which will allow us to form a picture of how these studies have contributed to this subject.

According to Table 1, most studies have focused on the dyadic view as well as on organizational network embeddedness, except Ford & Mouzas (2013) and Thornton *et al.* (2013). We note that although Ford & Mouzas (2013) suggest that it is possible to look at organizational networking at the three different levels, the proposed definition and the dimensions seem disjointed with these levels of analysis, particularly with the wider network context. On the other hand, the definition and the dimensions of organizational networking by Thornton *et al.* (2013) capture a wider context, at least to the meso level of the wider network context suggested by Hagedoorn (2006). They identify some networking behaviors that firms utilize to understand and influence the shaping of the industry through interacting with various parties, particularly with those that are not in close proximity and that are not trading with them (i.e. weak-tie relationships).

EMPIRICAL BASE

Our main objective is to operationalize the construct of organizational networking by building on an existing study's conceptualizations. It is therefore critically important to assess the research design of the studies, i.e. the way in which the conceptualization is developed, in order to evaluate whether the definition and the dimensions are suited for the purpose of developing a scale (operationalization). This reasoning is in line with the scale development process proposed

by Churchill (1979). To form a comparable analysis regarding the research design of the studies listed in Table 1, we discounted the study by Hagedoorn *et al.* (2006) due to the fact that it has a very different methodological base (i.e. quantitative) and it focuses on the construct of organizational networking to a far lesser extent than the others. The purely conceptual study by Ebers (1997) is also not included, which leaves the four remaining empirical case studies to form the basis for the following discussion. According to Yin (2009), to judge the quality of the research design of an exploratory case study (i.e. not researching causal mechanisms), one must understand its construct validity, external validity and reliability.

First, construct validity in the case study sense is related to the definition of the construct under study and the identification of key themes for the constructs. All four studies satisfy the first criterion to explicitly define the construct being studied. As far as the second criterion is concerned, only two studies discuss their construct validity enhancing strategies related to the key themes or operational measures. Holmen & Pedersen (2003) used multiple sources of evidence, such as interviews and observations, to form their findings. Thornton *et al.* (2013) utilized an abductive approach in an iterative process of data collection and analysis. In so doing, they were able to compare the themes emerged from the data and the evidence in the literature by going backwards and forwards in between the theory and the empirical data.

Secondly, external validity is related to the extent to which the research findings can be generalized analytically. As three out of the four studies have chosen a single firm (P&G, an engineering consumables supplier in the UK, and an electronics manufacturing firm in Scandinavia) as their subject of study, they do not necessarily display a strong external validity. It is not clear how they “generalize a particular set of results to some broader theory” (Yin, 2009, p. 43). Although Holmen & Pedersen (2003) utilized a replication logic of multiple interviews with different individuals, it does not contribute to the study’s external validity as the construct being studied is at a firm level, rather than personal level. Thornton *et al.* (2013), on the other hand, chose the UK manufacturing sector as a single case with 31 executives from 15 firms embedded within the case. They use replication logic of a multiple informant approach to cross-validate the themes identified across two or three informants within each firm. The research findings thus have a greater generalizability compared to others

Thirdly, Reliability is related to the extent to which the procedure of a case study can be repeated and generate the same findings. Only Holmen & Pedersen (2003) and Thornton *et al.* (2013) provide a detailed procedure of the way in which the researchers carry out their investigation, such as recruiting participant firm(s), the sources of evidence, data collection process and data analysis.

Based on the critical appraisal of these four studies’ empirical base, we conclude that the study by Thornton *et al.* (2013) has demonstrated an adequate level of all three qualifiers, i.e. construct validity, external validity, and reliability. In addition, the definition and dimensions identified by their empirical study encapsulate the cognitive process of an actor by conceptualizing the construct as an anticipated outcome-driven interaction. The conceptualization covers direct and indirect relationships as well as the meso level of the wider network context. Based on the above analyses, we therefore adopt their definition and the dimensions of this study for the operationalization of organizational networking. The construct is defined as “activities/routines/practices, which enable firms to make sense of and capitalize on their networks of direct and indirect relationships” (p. 2). They identified four key dimensions of anticipated-outcome driven networking behaviors: information acquisition, opportunity enabling,

strong-tie resource mobilization and weak-tie resource mobilization. Each dimension has its three sub-dimensions, which capture different ways in which firms utilize their strong- or/and weak-tie relationships in an attempt to achieve their anticipated goals (see Appendix A). Given that their conceptualization of networking is within the context of the UK manufacturing sector and the distinction between the four dimensions only stands qualitatively, our study is aimed at detailing further their research findings.

RESEARCH DESIGN

Based on the research objectives, the research design entails a two-stage empirical process, which is illustrated in Figure 1. The first stage involved the generation and the qualitative pre-test of the item pool based on the conceptualization by Thornton *et al.* (2013). In stage two, the set of measurement items, i.e. the networking behaviour scale, was subjected to quantitative tests through a web-based survey. The gathered data allowed us to test the reliability, validity and generalizability of the scale.

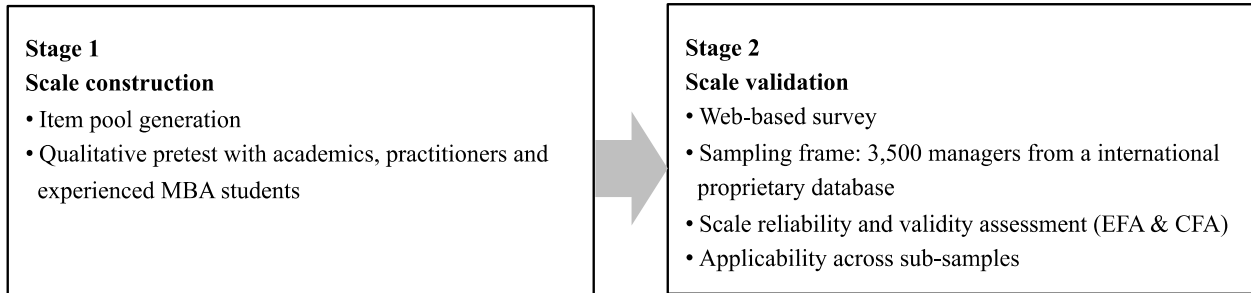


Figure 1 A two-stage scale development and validation process

STAGE 1: SCALE CONSTRUCTION

The four dimensions and their sub-dimensions of organizational networking provided by Thornton *et al.* (2013) (see Appendix A) have provided us a foundation for the scale construction. We follow the scale development procedure by Churchill (1979) by first generating several slightly overlapping measurement items (statements) that tap into each sub-dimensions to form an exhaustive pool of items that capture the domain of the construct. The initial pool of sample items then were gone through a phase of refining and editing, before we arrived at a preliminary list of measurement items, which includes 37 items. By the end of the item generation phase, we paid particular attention to ensure the sentences are succinct and as clear as possible. It is necessary at this stage to ensure the content validity of these items, which will in turn strengthen the overall construct validity (Peter, 1981). A three-step pretest, involving senior academics, executive managers, and MBA students, was carried out to ensure that the construct of networking behaviors is clearly reflected by the measurement items developed based on the conceptualization.

First, we consulted two senior academics, whose research domain is in business-to-business marketing, regarding the face validity of the measurement items. They both established that the four dimensions of networking are distinctively different from a theoretical perspective. They also suggested some minor changes to ascertain clarity of the suggested items. Secondly, we recruited five executive managers for in-depth interviews. The purpose of these interviews was to ascertain whether our interpretation of the measurement items is in line with networking

behaviors in practice. We compared all the points raised by the five managers and focused particularly on those items that were frequently questioned by the managers. We amended the item pool accordingly. Lastly, the amended scales were then tested on a small group of 30 experienced MBA students from a leading business school in the UK. This test was administered in the form of a paper and pen questionnaire, the purpose of which was to further purify the scales before they are subjected to a large scale survey. After the last step of the qualitative pretest, we arrived at an initial item pool (see Appendix B).

STAGE 2: SCALE VALIDATION

In the scale validation stage, we conducted a web-based survey using Qualtrics, an integrated platform for survey design and data collection, and subsequently subjected the valid responses collected to a series of validation tests. While Churchill's (1979) procedure provides initial guidelines for constructing the scale and using analytical techniques to test the reliability of the scale, Gerbing and Anderson (1988) enhanced this procedure by providing a rigorous construct assessment process, which mainly tackles the issue of assessing *convergent validity* and *discriminant validity* of a multi-item latent construct. Furthermore, a new construct should also demonstrate its 'utility' in a nomological model, i.e. nomological validity. We used SPSS 20 and Lisrel 8.8 to analyze the data regarding nomological validity. The following sub-sections detail and discuss the process of data collection and the subsequent analyses we carried out in order to assess the set of measurement items derived in Stage 1.

Data collection and sample characteristics

The questionnaire was designed and administered as a web-based survey using Qualtrics. Not only the measurement items for the four dimensions of organizational networking were included in the questionnaire, but also other relevant measurement items, which will be used to assess the nomological validity of the final measurement model of four dimensions of networking. A seven-point likert scale (1 = "completely disagree" and 7 = "completely agree") was used for all the items of the substantive constructs. We utilized a sampling frame of around 3,500 international managers from a proprietary database. The three largest groups by nationality are Asian (55%), European (17%) and African (13%). Their ages range from 22 to 51, with the average age being 34. 40% of the population in this sampling frame has 6-10 years of work experience, while 43% have 11-20 years. They work in a wide variety of industries, from manufacturing, services, the public sector, and others (such as reselling).

An invitation was initially sent to all 3,500 potential respondents in November 2012, followed by three reminders at one-week intervals. The Qualtrics system recorded 1249 responses, including partially completed responses. After deleting 460 unfinished responses, the survey resulted in 789 completed responses, which yields a response rate of 23%. However, to ensure the quality of the dataset, we further eliminated responses with less than 15 minutes of completion time, which gives 603 valid responses for the subsequent analyses. The threshold of 15 minutes was decided as the cutting point of a 'valid' response based on our own experience of filling out the survey.

Table 2 summarizes the profile of the respondents and their organizations. 45.1% of 603 respondents come from service industries, while 30.7% work in the manufacturing sector (public sector: 5.9%, and others: 20.4%). In terms of their organization size, the three largest groups by the number of employees are 5001 and above (32.7%), 51-250 (15.4%) and 751-2500 (14.9%). With regard to respondent characteristics, the majority of the respondents are at a position of

either middle to high management (67.1%) or top-level director (15.3%) in their organizations. In addition, 40.2% of the respondents have 6-10 years of managerial experience, followed by 3-5 years (31.6%) and 11-15 (12.3%) years. In terms of the industries they work in, 45.1% come from services industries, followed by manufacturing at 30.7%, public sector 3.8% and others 20.4%.

Table 2 Profile of the respondents

Firm profile		Respondent profile			
	Frequency	Percentage (%)			
<i>Industry</i>			<i>Job position</i>		
Services	272	45.1	CEO	7	1.2
Manufacturing	185	30.7	Owner or joint-owner	15	2.5
Public sector	23	3.8	Managing director	19	3.2
Others	123	20.4	Other top-level director	92	15.3
<i>Number of employees</i>			Middle/high level manager	404	67.1
1-10	20	3.3	Others	65	10.8
11-25	23	3.8	<i>Yr. of managerial experiences</i>		
26-50	45	7.5	0-2	62	10.3
51-250	93	15.4	3-5	190	31.6
251-750	79	13.1	6-10	242	40.2
751-2500	90	14.9	11-15	74	12.3
2501-5000	56	9.3	16-20	18	3.0
5001 and above	197	32.7	21 and above	16	2.7

Assessing non-response bias

There are three methods for estimating nonresponse bias suggested in the literature, namely comparison with known values for the population, subjective estimates, and extrapolation methods (e.g. comparing early and late responses) (Armstrong & Overton, 1977). The tenets of the subjective estimates involve researcher’s judgments on the characteristics of the respondents and how they make an impact on the responses they give. This method is somewhat uncertain, as there is no specific and universal guidance for researchers to make a confident conclusion about the extent of nonresponse bias (Armstrong & Overton, 1977). Therefore, we chose to use two other methods, (1) comparing early and late responses and (2) comparing survey results with known values for the population, to help assess the possible nonresponse bias in our data.

First, as we had four waves of responses: Based on the initial invitation letter, and the three reminders, we compared the responses collected before the first reminder letter (i.e. after the initial invitation) with the responses after the third reminder letter was sent. The former group represents the early respondents, and the latter group represents late respondents (and are assumed to approximate those who did not respond at all, i.e. non-respondents). We assess non-response bias for all the measurement items of networking behaviors, and the respondent characteristic variables. Chi-square tests were performed for assessing whether these two groups of respondents gave significantly different responses. The results show that there is no significant difference in the respondent characteristics and most of their responses in the variables (17 out of 21) in the new scale between the two groups. We further examined the four variables (one item in Type I networking behaviors, and three items in Type II), which show significant differences for early and late responses. Across all four variables the responses from the early respondents have a significantly higher mean than those from the late respondents. However, these four items

are similar to other items in their corresponding types and the assessment of the respondent characteristics and the responses in the majority of the variables in these two groups indicate no significant differences. We conclude that the differences exist in these four variables are not a result of differences in early and late respondents.

Secondly, we compared the known value of industry sectors for the population with our survey sample. A Chi-square test was performed to assess and establish as to whether or not our sample has similar structures compared to that of the population. A non-significant Pearson's Chi-square suggests that the industry sectors in which the survey respondents operate share a similar structure with that of the population. The results of these two tests allow us to conclude that nonresponse bias is not a concern for our data.

Two-step scale purification

In order to purify the measurement items, an exploratory factor analysis (EFA) was performed using principal components as an extraction method with varimax rotation. A seven-factor model initially fits the data with sums of squared loading at 62.11%, which displays an adequate level of explanatory power. The item pool originally contained 37 items, which were reduced to 28 items after eliminating items that are cross-loading (cut-off point of 0.32) and that have low factor loadings (lower than 0.5) on their factors. Note that this process is not completely data driven. We checked the item descriptions for further consideration to assess the importance of those items for their specific latent construct. We thus took the integrity of the conceptualization and operational definition of the constructs into account during the item elimination process. After an iterative process a six-factor solution resulted: 21 out of 28 items loaded on their corresponding (networking behavior type) factors, which confirms the typology we developed, while the other 7 items appear to form two distinctively separate factors. A close examination of these two factors was needed in order to determine whether our conceptualization of networking behaviors needed to be modified. Five out of those seven items related to organizations attending trade events, including taking part in trade shows, seminars and meetings. We investigate the possible reasons for them to load on a separate factor rather than their supposed corresponding factor. Two (item 31 and 32, Type I, see Appendix B) out of these five items are behaviors regarding gathering information, while the other three items (11, 13 and 14, Type II, see Appendix B) are about opportunity sensing. These two purposes in some way overlap, as sensing opportunities can be interpreted as gathering information regarding business opportunities. Originally, we expected that items representing opportunity sensing and seizing would load onto the same factor as they are conceptually very closely related. However, the result shows that these five items are all about sensing the market (information and opportunity sensing), and share the same factor that departs from our original typology.

The construct of organizational networking behavior is defined as those activities/routines/practices *which enable firms to make sense of and capitalize from their networks of direct and indirect relationship.* The channels through which firms can sense and seize the opportunities in their networks are not defined in the definition. However, based on the sub-dimensions, firms utilize an array of behaviors to network for various purposes through two main channels, i.e. established relationships and non-established indirect relationships. Strictly speaking, trade events can be defined as a *stage* for firms to interact as part of such relationships. We can further infer that the reason why the five items depart from their originated constructs is that compared to all other items they presuppose a different unit of interaction, i.e. a wide variety of relationships versus either established or non-established relationships for all other items.

Therefore, we conclude that trade events are more of a stage or an occasion for interactions rather than interactions within and across different types of relationships, the latter of which is the core of organizational networking behavior as we have conceptualized it. When considering the integrity and parsimony of the overarching organizational networking behavior construct, we decided to eliminate these five items. Furthermore, by eliminating all items related to trade events, the resulting scale is more universally useful to various industries (i.e. also those where trade shows are less common, as in the services sector), and at the same time it still captures the importance of sensing the market by interacting with business partners and business contacts, both of which in some way include those firms they would meet during trade events.

In addition, items 21 and 22 in Type II (see Appendix B), i.e. interactions with regulatory bodies, were said to be very important by several companies, particularly in the industries where offerings have to comply with regulations set by governing bodies or if customers are in the public sector. In addition, being able to lobby seems to require certain resources or being in a strategic position where a firm can interact with such regulatory bodies. Thornton *et al.* (2013) note in their study that only relatively large companies (in specific industries) find themselves benefiting from lobbying in order to change or create demand in their favor, whereas smaller companies do not lobby in a way that would generate comparable benefits that would warrant such resource investments. The survey data seems to confirm this point as the relevant items are separated from the factor they originated from. We examined the correlation between company size and these two items (21 and 22, Type II, see Appendix B), and it shows that both of them significantly correlate with company size ($r = 0.178^{**}$ and 0.195^{**} , $p < 0.05$ respectively), while most of the items in the original factor display no such correlation. This partly explains the reason why the factor does not fit the data as expected. Based on our observations in the qualitative data and evidence from the quantitative survey, we thus decided to eliminate them from the scale in order to preserve the integrity of the conceptualization and the generalizability of the scale.

After the elimination process, we arrived at a four-factor solution with 21 items, which relates to the typology we developed. As far as the adequacy of the sample size for assessing this measurement model is concerned, the KMO (Kaiser-Meyer-Olkin) measure of sample adequacy of 0.92 indicates that the number of responses ($n=603$) is sufficient for the purpose of model assessment. The final measurement model explains 60.58% of the variance of the underlying construct, which shows a good level of explanatory power. Each factor under the overarching construct also displays fair to good levels of reliability. Information acquisition, opportunity enabling, and strong-tie resource mobilization have Cronbach's α of 0.86, 0.89 and 0.84 respectively, while weak-tie resource mobilization has a slightly lower reliability with Cronbach's α at 0.74. Next, the final solution resulting from the EFA is subjected to a confirmatory factor analysis (CFA) using Lisrel 8.8. Initially, the measurement model achieves an acceptable model fit (RMSEA = 0.05, Standard RMR = 0.054, NFI = 0.97, CFI = 0.98, IFI = 0.98, GFI = 0.91) (see Table 3).

Table 3 Measurement model fit indices

	Initial model	Modified model
RMSEA	0.050	0.039
SRMR	0.054	0.046
NFI	0.97	0.98
CFI	0.98	0.99
IFI	0.98	0.99
GFI	0.91	0.94
AGFI	0.88	0.92
χ^2	458.29	215.67
df	183	113

However, the slightly low AGFI (0.88) and high χ^2 (458.29, $p < 0.000$) indicates the possibility of further improvement. We eliminated four items from the initial measurement model based on the cross examination of factor loadings and model diagnostics, i.e. path estimates, modification indices and standardized residuals (Hair *et al.*, 2008). Note that the elimination of these items does not affect the integrity of the factors as we only eliminated items, which were covered to a large extent by other (overlapping) items as well. The elimination of these items improved all model fit indices. Although χ^2 is still significant ($p < 0.000$), it has been greatly improved ($\Delta\chi^2 = 242.62$). Hair *et al.* (2008) suggest that when the sample size is more than 250 ($n = 600$ in our data) and the observed variables are between 12 and 30 (number of items in our study = 17), a significant χ^2 can be expected and still indicate a good model fit). We therefore conclude that the fit of the measurement model is deemed to be satisfactory, given the excellent fit indices after the second purification process.

Table 4 summarizes the final complete standardized solution of the measurement model and the factor loadings for all the items with their corresponding factors. The final measurement model for networking contains 17 items.

Table 4 Final CFA standardized solution: factor loading

Variables	IA	OE	SRM	WRM
Information Acquisition (4)				
13	Information provided by our business partners is helpful for us to make an informed decision.	0.65		
21	By speaking to our business contacts, we are able to obtain the information that is crucial to us.	0.81		
22	We recognize that information from our business contacts is useful for us.	0.90		
23	Information from our business contacts who work in a similar market can be useful for us.	0.82		
Opportunity Enabling (5)				
31	We make every effort to go out and network in order to increase our reputation in the market.		0.75	
32	We recognize that the value of working well with our business partners adds to the reputation of our products or services.		0.82	
33	We invest in building up our reputation in the market by networking with our business partners.		0.86	
34	We work towards becoming an effective business partner for other companies in the market (e.g. potential customers or suppliers).		0.80	
35	We recognize the benefit of word-of-mouth amongst our business partners.		0.68	
Strong-tie Resource Mobilization (5)				
31	Matching our suppliers' capacity to the demands of our customers has been an important practice in our organization.			0.71
32	Our suppliers' ability is critical for us to satisfy our customers.			0.70
33	Having good relationships with both suppliers and customers has enabled us to adapt to changes in the market place.			0.82
34	When necessary, we coordinate between our business partners in order to resolve a particular issue/problem or improve the performance of a process.			0.64
35	Our customer-focused approach is communicated to suppliers, so that they are aware of how we serve our customers and can contribute to the success of delivering the offerings.			0.63
Weak-tie Resource Mobilization (3)				
23	We need to work closely with influential parties who have relationships with our direct customers to stimulate demand.			0.57
31	We approach our competitors' customers when we think the time is appropriate.			0.80
32	Identifying our competitors' major customers helps us to getting to know the needs and requirements of potential customers.			0.77

Construct validity

After the measurement model has satisfied the criteria of model fit, the next step is to assess its construct validity, i.e. establish how well the measurement model actually represents the theoretical underlying construct (Hair *et al.*, 2008). Convergent validity, discriminant validity and nomological validity will be evaluated, as face validity has been established in the conceptualization stage and the first stage of our empirical study.

First, convergent validity is concerned with whether or not a set of items share a high proportion of common variance. Hair *et al.* (2008) suggest the following criteria for satisfying acceptable convergent validity: (1) factor loadings should be above 0.5, (2) average variance extracted (AVE) should reach 0.5 as a minimum, and (3) construct reliability (CR) should be between 0.6-0.7. All the items have factor loadings above 0.6 (0.63-0.90) with the exception of one item at 0.57, which is still above the cut-off point of 0.5 (see Table 4). All four factors have an AVE value that is above 0.5, and they all show very good levels of internal consistency, as their CR are between 0.76-0.89 (see Table 5). Based on the above evaluation, we conclude that the measurement model has satisfied the criteria of construct validity.

Table 5 Correlations, composite reliability (CR) and discriminant validity

	CR	AVE	IA	OE	SRM	WRM
Information Acquisition	0.88	0.64	(0.80)			
Opportunity Enabling	0.89	0.62	0.58	(0.79)		
Strong-tie-approach Resource Mobilization	0.83	0.50	0.46	0.65	(0.70)	
Weak-tie-approach Resource Mobilization	0.76	0.52	0.46	0.59	0.57	(0.72)

The numbers in diagonal is the square root of AVE for each factor

Secondly, discriminant validity is the extent to which a construct distinctly differentiates from others. In this context, we assess whether the four factors are different from one another by testing whether the square root of AVE for any given two factors is greater than the correlation between these two factors. According to Table 5, when assessing in pairs, the square root of AVE for each factor (in brackets on the diagonal) is greater than the correlation between the two factors. This leads us to conclude that these four factors derived from theory and our exploratory empirical work has distinctive properties that capture different aspects of networking.

Thirdly, nomological validity is concerned with the extent to which a construct is related to other existing ones. Potentially, networking behavior could provide important implications to the practitioners operating in business-to-business markets in terms of how it can increase firm competitiveness. We establish the nomological validity based on the hypothesis that organizational networking positively increases firms' market orientation, because it brings about rich information, opportunities and novel and effective ways of mobilizing resources from the network (Gulati & Sytch, 2007; Mouzas & Naudé, 2007). Market orientation has been a steady stream of research, and it has been continuously reinforced that the ability to respond to customer needs is an important organisational competence as well as the driver of a company's success, such as new product success (Narver, Slater & MacLachlan, 2004) or business performance (Jaworski & Kohli, 1993; Narver & Slater, 1990). It is therefore a suitable construct for assessing the nomological validity of organizational networking.

We performed three stepwise regressions to assess how the four dimensions of networking affect the three dimensions of market orientation, namely customer orientation, competitor orientation and inter-functional coordination (Narver & Slater, 1990). As all seven dimensions contain multiple items, we calculated the means for all seven dimensions from their associated items. We regressed each of the three dimensions of market orientation (dependent variables) on the four dimensions of networking (independent variables). The results are summarized in Table 6.

Table 6 Stepwise regressions: four dimensions of networking and three dimensions of market orientation

Dependent variable: <i>Customer Orientation</i>	β	t-value	R ²
Model 1			0.34
Strong-tie-approach Resource Mobilization	0.52***	17.48	
Model 2			0.39
Strong-tie-approach Resource Mobilization	0.43***	11.08	
Opportunity Enabling	0.27***	6.93	
<hr/>			
Dependent variable: <i>Competitor Orientation</i>			
Model 1			0.29
Strong-tie-approach Resource Mobilization	0.54***	15.63	
Model 2			0.35
Strong-tie-approach Resource Mobilization	0.38***	9.42	
Opportunity Enabling	0.29***	7.16	
Model 3			0.37
Strong-tie-approach Resource Mobilization	0.33***	8.11	
Opportunity Enabling	0.22***	5.31	
Weak-tie-approach Resource Mobilization	0.18***	4.64	
<hr/>			
Dependent variable: <i>Inter-functional Coordination</i>			
Model 1			0.22
Opportunity Enabling	0.47***	13.06	
Model 2			0.28
Opportunity Enabling	0.30***	7.22	
Strong-tie-approach Resource Mobilization	0.30***	7.09	
Model 3			0.29
Opportunity Enabling	0.26***	5.67	
Strong-tie-approach Resource Mobilization	0.28***	6.47	
Information Acquisition	0.12***	2.78	

***P < 0.001

As expected, organizational networking do have positive impact on all three dimensions of market orientation. However, not all four dimensions of organizational networking impact on customer orientation, competitor orientation and inter-functional coordination. For instance, Strong-tie resource mobilization seems to be the strongest explanatory variable for customer orientation, followed by opportunity enabling (R²=0.39), whereas information acquisition and weak-tie resource mobilization make no impact to the outcome variable (R²=0.37). In the case of competitor orientation, the key drivers are strong-tie resource mobilization, opportunity enabling and weak-tie resource mobilization. On the other hand, opportunity enabling, strong-tie resource

mobilization and information acquisition increase inter-functional coordination ($R^2=0.29$). Based on the results, we conclude that the four dimensions of organizational networking display their nomological validity in explaining the three dimensions of market orientation. Firms network to become more market-oriented by ways of sensing the network and utilizing resources that are available to them.

Scale applicability in manufacturing and services settings

As the dimensions of organizational networking were derived from the empirical data from a wide range of firms in the manufacturing sector, the question is whether the scale developed from these dimensions can be generalized to the services sector. One might question as to whether the composition of the organizational networking behaviors remains the same in manufacturing and services sectors as services industries are dealing with largely invisible offerings. In addition, managers in these two sectors might have different perceptions about how they network and that this set of scales could assume different meanings to them. To understand the extent to which this scale is applicable to the services sector, we performed two invariance tests with nested competing multi-group (services vs. manufacturing) models in order to assess the applicability of the scale. A full matrix invariance test is executed to answer the question as to whether the managers from manufacturing and services firms interpret and use the scales in a same way. The scalar invariance test provides the answer to the question of whether or not these four dimensions of networking have the same meaning to manufacturing and services firms.

The baseline model for the invariance tests is to confirm that the measurement model contains the same number of latent constructs and the observed variables associated to them across two groups. It displays a good level of model fit based on the suggested reliable fit indices for assessing competing models, such as RMSEA (0.041), PNSI (0.80) and CFI (0.99) (Hair *et al.*, 2007). Next, three competing models are created with the constraints of (1) factor loadings, (2) factor loading and inter-factor covariance and (3) factor loading, inter-factor covariance/variance being set equivalence across two groups. Three χ^2 tests were performed to assess the fit against the baseline model. By doing so, we can conclude as to whether the constraints have made the model fit worsen significantly. Table 7 shows that even at the strictest level of invariance (i.e. factor loading, inter-factor covariance/variance equivalence across two groups) the measurement model still maintains a very good fit, and with a type I error rate at 0.01, it displays error variance invariance across manufacturing and services, which is rarely been achieved, yet is important to a measurement model when the generalizability needs to be established (Byrne, 1998; Hair *et al.*, 2008). Therefore, based on the results of the full matrix invariance test the scale demonstrates equal measures in factor loadings ($\Delta \chi^2=11.96$, $\Delta df=13$, $p=0.53$), inter-construct relationships ($\Delta \chi^2=26.61$, $\Delta df=19$, $p=0.11$) and construct reliability ($\Delta \chi^2=36.71$, $\Delta df=23$, $p=0.035$) in these two sectors.

Table 7 Testing for invariant factorial structure of scores from a measuring instrument

	Full Matrix Invariance				Scalar Invariance
	Factor structure equivalence (baseline)	Factor loading equivalence	Factor loading and interfactor covariance equivalence	Factor loading, interfactor covariance/variance equivalence	Zero-intercept terms equivalence
RMSEA	0.041	0.040	0.041	0.042	0.039
PNFI	0.80	0.85	0.87	0.88	0.89
CFI	0.99	0.99	0.99	0.99	0.99
χ^2	313.52	325.95	338.04	350.23	337.92
	(P=0.00010)	(P=0.00016)	(P=0.00007)	(P=0.00002)	(P=0.00024)
df	226	239	245	249	252
$\Delta \chi^2$		11.96	26.61	36.71	24.40
Δdf		13	19	23	26
Sig.		Non sig. (p=0.53)	Non-sig. ($\Delta p=0.11$)	Non-sig. (p<0.035)	Non-sig. (p=0.55)

Type I error rate = 0.01

The scalar invariance test also indicates the invariance of the observed variable intercepts (means) on their associated latent constructs ($\Delta \chi^2=24.40$, $\Delta df=26$, $p=0.55$), which allows a valid comparison in construct means of the four factors across the two groups. The result suggests that manufacturing firms and services firms network similarly based on the four dimensions. The Kappa parameters were estimated for services group (i.e. latent construct mean differences compared to manufacturing group), which are -0.14 ($t=-1.62$, $p=0.11$), -0.04 ($t=-0.34$, $p=0.71$), -0.19 ($t=-1.88$, $p=0.06$) and -0.18 ($t=-1.79$, $p=0.08$) for information acquisition, opportunity enabling, strong-tie resource mobilization and weak-tie resource mobilization respectively. Although services firms show lower means in all four dimensions, none of the differences are statistically significant.

CONCLUSION

We set out three objectives in our study at the outset, and we will organize the discussion around them. First, given the conceptualization of organizational networking available from six studies in the literature, we began by critically assessing them in terms of the appropriateness of the definitions and dimensions, the network characteristics, and the empirical base. We concluded that the definitions and the dimensions need to explicitly reflect the strategic intent of a focal firm in order to capture its motives for initiating different ways of networking behaviors, because they are largely anticipated outcome-driven. In addition, the definitions and the dimensions also need to reflect the level(s) of network structures, because organizational networking is the way in which firms learn about their surroundings and accordingly, reap the benefit from them or mitigate potential harmful network effects. Without considering all three levels of network embeddedness, i.e. dyadic, organizational and environmental embeddedness as suggested by (Hagedoorn, 2006), organizational networking as a firm-centered construct cannot be fully understood. Finally, for the purpose of operationalizing the scale for the construct by utilizing dimensions provided by one of these existing empirical studies, we assess their empirical base by examining the construct validity, external validity and reliability. This is critically important when developing a scale from a conceptualization based on qualitative-based studies (Churchill, 1979). We chose to operationalize the four networking dimensions and their sub-dimensions developed by Thornton *et al.* (2013).

The second objective is to operationalize organizational networking. To this end, we implement a two-stage scale construction and validation process. We test the construct validity of the four-dimension measurement model in order to ascertain whether (1) the observed measures are indeed reflected by the associated latent constructs, (2) the four dimensions are significantly different, and (3) organizational networking has relevance to a substantive construct, i.e. market orientation through rigorous statistical assessments (Gerbing & Anderson, 1988). The results suggest that information acquisition; opportunity enabling, strong-tie resource mobilization and weak-tie resource mobilization as a measurement model show an adequate level of construct validity, and are distinctive from one another. The usefulness of the scale development of this study is that future research will be able to adopt the scale to capture the construct of organizational networking, and to include it in a nomological model, incorporating other constructs of interest, to discover the causal relationships among them in a wide range of research settings, for example, in manufacturing and services industries. Therefore, the final objective is to examine whether the scale is applicable across manufacturing and services sectors. Given that the dimensions were identified in a manufacturing setting, the scale needs to be subjected to statistical tests, such as the full matrix invariance test and scalar test to validate it in a different setting, in the case of our study, the services sector. The results of such tests suggest that the scale demonstrates the generalizability in the services sector as well as in the manufacturing sector where it was derived.

The study contributes to the existing literature in three ways. First, we provide a critical assessment of the existing organizational networking studies based on the three key components, the definition and the dimensions, the level(s) of network and the empirical base. These three qualifiers provide insights into how much knowledge we have gained about organizational networking from the existing studies. Secondly, we operationalized the construct of organizational networking by building on the existing dimensions provided by Thornton *et al.* (2013). Our scale validation process confirms the four-dimension measurement model and further provides support for their argument that the four dimensions are distinctively different and that they tap into different ways of organizational networking by firms' anticipated outcomes. Thirdly, we have extended the generalizability of the four-dimensional organizational networking from its originated manufacturing sector to services sector. We tested for latent construct mean difference across these two sectors, and the result suggests that manufacturing and services firms network similarly based the four dimensions.

Our study has its limitations mainly related to the sample we chose for the scale development. We utilized experienced international managers from a wide variety of industries to test the new scale. Although the resulting scale has a certain level of generalizability due to the sample characteristics, we still cannot be fully confident of such generalizability unless the test is repeated and applied in different populations. It is equally true to say that we cannot be certain whether the results will hold if the survey is to be applied in specific industry settings, e.g. high technology industries. Therefore, the resulting scale from this study provides the basis for future research to implement it in various settings to generate further insights and establish stronger evidence of generalizability. Another future research direction would be to understand what role organizational networking plays in relation to other organizational behavioral constructs, and different performance constructs, such as relationship outcomes, firm performance and innovation success. From the results of the nomological validity assessment, we can infer that organizational networking has a positive impact on firms' market orientation, but there is still a need for a deeper understanding of how organizational networking impacts upon the

development of other organizational capabilities, e.g. relational capabilities, and whether organizational networking has a positive indirect impact on firm performance through other organizational capabilities.

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Appendix A Dimensions of networking behavior and their sub-types

Dimensions of networking behavior	Sub-types	Descriptions
<p><u>Networking Behavior Type I</u> Information Acquisition</p> <p>The activities/routines/practices that firms employ to acquire necessary/desired information (from direct interacting counterparts, informal contacts and public domain.) for helping make informed decisions.</p>	1. Acquiring via business partners (trading relationships)	Firms utilize their business partners such as important customers and suppliers as the source of information.
	2. Acquiring via business contacts (non-trading relationships)	Firms utilize their business contacts such as organizations operating in different industries as the source of information.
	3. Acquiring via public trade events	Firms utilize trade events, such as trade shows, trade-specific meetings and seminars and trade organizations as the source of information.
<p><u>Networking behavior Type II</u> Opportunity Enabling</p> <p>The activities/routines/practices that firms employ to sense the opportunities and build their reputation by consciously interacting with relevant parties in their business sphere.</p>	1. Sensing through networking events	Firms attempt to interact with various counterparts in order to sense the opportunities.
	2. Sensing/influencing through lobbying	Firms attempt to influence the legislations in their favor by interacting with relevant governmental bodies and trade organizations.
	3. Signaling self-perceived network identity	Firms attempt to build their reputation as an attractive partner by consciously working with well-regarded partners and by signaling their ability that matches their intended partners' needs.
<p><u>Networking behavior Type III</u> Strong-tie Resource Mobilization</p> <p>The activities/routines/practices that firms employ to mobilize resources amongst their direct/established relationships.</p>	1. Mobilizing through adjusting resources	Firms adjust the level of relational investments based their assessment of their overall relationship portfolio and the future benefit of maintaining the level of investment.
	2. Mobilizing through transferring resources	Firms transfer resources across different relationships by using the synergies that they have built over a period of time with their important partners.
	3. Mobilizing through pooling resources	Firms pool resources among two or more relationships in order to solve an identified issue or improve a process/offering.
<p><u>Networking behavior Type IV</u> Weak-tie Resource Mobilization</p> <p>The activities/routines/practices that firms employ to mobilize resources that are linked to their indirect/new relationships.</p>	1. Mobilizing through bridging weak-tie relationships	Firms utilize a weak-tie relationship, such a newly form relationship in a new market, to get access to its local knowledge and its established web of relationships.
	2. Mobilizing through Bypassing-Flanking	Firms utilize a weak-tie relationship, such as an influential party to their targeted customers, to gain insight into customer preference and to influence demands.
	3. Mobilizing through Bypassing-avoidance	Firms identify and interact with potential partners through bypassing important network members, such as competitors or customers.

Source: Thornton *et al.* (2013)

Appendix B Initial item pool

TYPE I: Information Acquisition (8)	
11	We ask our business partners when we need information regarding any of the following: new business opportunities, competition or technology developments in the market.
12	Our business partners share sensitive information (in line with anti-competition law) with us.
13	Information provided by our business partners is helpful for us to make an informed decision.
21	By speaking to our business contacts, we are able to obtain the information that is crucial to us.
22	We recognise that information from our business contacts is useful for us.
23	Information from our business contacts who work in a similar market can be useful for us.
31	We attend important trade events for gathering information.
32	We attend important meetings and seminars held by industry-specific organisations for gathering information.
TYPE II: Opportunity Enabling (11)	
11	We proactively take part in various trade events.
12	We proactively interact with trade associations, trade committees or regulatory bodies.
13	We encourage our employees to 'go out there' to trade events to seek out new opportunities.
14	We ask our business partners to refer/guide us to the right person(s)/organisation(s) that can help our business grow.
21	We lobby to influence/shape the relevant legislations in our favour by interacting with regulatory bodies (e.g. politicians, parliament and local councils).
22	By actively being involved in the industry-specific trade organisations (e.g. committees and associations), we can put our weight on shaping the development of our industry.
31	We make every effort to go out and network in order to increase our reputation in the market.
32	We recognise that the value of working well with our business partners adds to the reputation of our products or services.
33	We invest in building up our reputation in the market by networking with our business partners.
34	We work towards becoming an effective business partner for other companies in the market (e.g. potential customers or suppliers).
35	We recognise the benefit of word-of-mouth amongst our business partners.
TYPE III: Strong-tie Resource Mobilization (10)	
11	Our investment in strategic relationships are linked to the relationships' long-term value.
12	We assess our overall supply chain (i.e. the suppliers of our suppliers) in order to ensure our offering is suitable
21	The experiences we have had with certain strategic business partners are useful in other relationships.
22	Being able to pool resources (e.g. know-how, information, people and assets) amongst different customers and utilise them is crucial for our success.
23	We plan our business strategies based on the assessment of the strategic importance of the customers.
31	Matching our suppliers' capacity to the demands of our customers has been an important practice in our organisation.
32	Our suppliers' ability is critical for us to satisfy our customers.
33	Having good relationships with both suppliers and customers has enabled us to adapt to changes in the market place.
34	When necessary, we coordinate between our business partners in order to resolve a particular issue/problem or improve the performance of a process.
35	Our customer-focused approach is communicated to suppliers, so that they are aware of how we serve our customers and can contribute to the success of delivering the offerings.
TYPE IV: Weak-tie Resource Mobilization (8)	
11	We continuously look to work with new business partners who could bring about new opportunities.
12	We often use agents/local representatives to penetrate a new market by utilising their network of relationships.
13	We initiate relationships with new business partners to gain local knowledge in a new market.
21	Understanding our customers' environment enables us to improve our offerings.
22	We interact with the customers of our customers.
23	We need to work closely with influential parties who have relationships with our direct customers to stimulate demand.
31	We approach our competitors' customers when we think the time is appropriate.
32	Identifying our competitors' major customers helps us to getting to know the needs and requirements of potential customers.

