

Project Management Capabilities in the New Media Industry

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ABSTRACT The new media industry is made up of dynamic and perilous markets, in which a firm's success is dependent on the continuous rapid development of innovative products. To achieve this daunting task firms establish and maintain networks of potential partners that have capabilities with high potential and serious risks. These networks of partners are repositories of diverse resources to supplement and complement lacking internal resources. The authors conducted in-depth exploratory interviews with executives of small and medium sized new media firms following their participation in joint innovative product development projects. The authors develop propositions extending resource-based view theory to the development of resources across weak ties while highlighting the tactical and strategic management of new product projects within project networks. They uncovered complex processes and performance constructs giving future researchers more specificity in their future project alliance research models.

KEY WORDS: new media, project networks, alliance projects

The new media industry (NMI) evolved from traditional media by the application of digital age technologies. Digital age technologies have introduced numerous innovations applicable for both the content development and distribution of digital media products. With the universal "digital technology" base, digitalization, doing business in the NMI has changed dramatically from its predecessor, including reduced barriers to entry for new entrants. Competitors are able to develop from both within the industry and across the industry. These changes have

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made the power of users respectively clients, greater (Greco, 2000). Their greater power has increased their expectations to demand rapid and frequent updated products containing new boundary-stretching innovations. Developers have responded with speedier developments and the creation of more options and channels to deliver their products. These factors have emerged as major competitive factors of the content developers and distributors in the NMI.

The new media industry therefore consists of dynamic markets, and to be successful firms are required to develop new products quickly with significant changes and/or alterations from previous products (Matusik & Heeley, 2005). To accomplish these innovation strategies firms rely on a variety of alliance-based projects to supplement and complement their existing resources and development capabilities. The traditional resource-based view of the firm does not specify externally obtained and/or developed capabilities (Chandler, 1992). Recent research has extended the traditional resource-based view that capabilities are embedded and improved within a firm to the uncovering that capabilities may also be developed externally across the strong embedded ties that exist in well established buyer-supplier relationships (McEvily & Marcus, 2005). Our investigation found evidence that internal firm capability development in the NMI is superseded by capability borrowing through inter-firm networks. Unlike the strong embedded ties between buyers and suppliers, the NMI project networks are primarily connected by weak ties. The potential for firms to find needed capabilities in the network is great, but at the same time any one of the firms in the network asked to join a development project can easily go from partner to competitor with the knowledge obtained in the project.

Within these project networks the industry's dynamism affords firms numerous opportunities for capability exchanges, supplementing, and/or complementing their existing capabilities through collaboration. Yet, numerous risks and uncertainties that up to now have only been rudimentarily analyzed are present in the product development project, the alliance, the project network, and in the industry. In our case studies we find that similar to the traditional TV Industry (Sydow & Staber, 2002); new product development in the NMI depends on project networks to openly exchange new knowledge and to integrate as well as to adapt successful routines from network partners.

Yet, the conditions for competition in the NMI are significantly different compared to the traditional media industry. Any partner in NMI project networks is a potential competitor. This has contributed to dramatic differences in the structure, type of firm, and the uncertainties and risks present in the NI project networks. In our investigation we find evidence to support the proposition in recent theoretical literature that in project networks heterogeneous competencies of the partners are shared and different governance mechanisms are necessary to insure benefits are achieved while acknowledging that potential risks exist (Lavie, 2006).

In project networks, firms temporarily combine their specific competencies purposefully across the boundaries of firms. So not only are the firms potential rivals, but also the firm boundaries are voluntarily opened to facilitate the new product development. In addition each firm needs to actively participate in the many collaboration processes involved in the development and marketing of technologically stretching products. The governance of these project networks can not rely on project management routines established for internal team-based projects. Both formal and flexible routines are established to govern the progress within their project networks to complement the trust that allowed the formation of the alliance.

Therefore within this paper we strive to shed light on project networks in NMI and to build upon the strategy literature's resource-based view foundations. Also, our investigation of the new media industry aims to expand research of traditional media and the unique relations between content providers and distributors that play an important role in the media industry. This paper is also inclined to retrieve insights into how both types of firms in this dynamic digital industry compete and cooperate to be successful in the market.

Our research is exploratory initiating with a comparison of empirical and theoretical literature of the traditional media industry. We develop and answer the following research questions that are important for the management of firms in the dynamic new media industry:

1. How does the structure of project networks function as a repository of capabilities benefiting member firms as they use both internal and external capability sources to develop new products?
2. How and why do firms in the NMI interconnect with each other in the unique structure of project networks?
3. How do project networks in the NMI facilitate the sourcing of capabilities within the content providers, within the network of distributors, and across the boundaries of each? What governance mechanisms do firms rely on in the NMI to manage inter-firm relationships? In particular, what is the role of trust in weak-tied inter-firm relationship of project networks?
4. What are the roles that dynamic capabilities have in the weak tied interfirm relationships of project networks?
5. Where the support of collaboration and establishment of project controls are necessary for the transfer and/or use of another firm's capabilities for new product development, but where no structure of strong ties as in traditional alliances exist, how does the presence of weak relational embeddedness in project networks alter management's practices?
6. Lastly, in project networks within new product development in the NMI where rapid innovation demands multi-party collaboration in the presence of high uncertainty and multiple

risks does management rely on either formal and/or flexible project management techniques?

Since our research is centered on inter-firm capabilities we based our investigation on the expanded relational and social network theory of RBV and its external capability sourcing perspective to give insights on how firms operate within weak tied alliances and in particular, project networks. To speak in the language of the RBV, alliances provide organizations with the capability to collaborate and outsource. Alliances give each participating organization the opportunity to exploit another firms' core competence that complements their own core competences. Thus, the alliance is a platform for the combination of capabilities which include but is not limited to best practices and skills while maximizing the investment of each firm in their own core capabilities. Alliances within project networks offer firms the ability to outsource without establishing highly cost-intensive management structures to function in arms-length contracts between two separate firms. Therefore, the investigation into alliances within the NMI may be able to shed light on to the acquisition of capabilities from external sources and possibly the dynamic capabilities necessary to transfer and assimilate the knowledge.

After presenting our research design and theoretical justification, we investigate the overall theory for capability development in alliance makeup in the new media industry. Alliances in the media industry typically differ with respect to their focus on either content or distribution. Therefore we start with describing content and distribution project alliances. As such, we next explore the transfer of capabilities between content providers and also distributors. In the next section we analyze the management of the new product development (NPD) alliances and discuss the impact on the capabilities (e. g. routines) of the partnering firms. We then discuss potential insights for future research that encompasses characteristics of a construct development for further empirical research.

RESEARCH DESIGN

This research explores the nature of project alliances in the new media industry. Therein, we explore the relationships that maintain the operation of the alliance. We want to shed light on the structure and management of the project alliance, in particular the external sourcing of capabilities when new media firms work within alliances. Little is known about the NMI's project networks. Therefore our study is explorative in using multiple case studies. This method has been chosen by researchers to investigate hidden yet important insights into organizational behavior (Menon, 2003).

The case studies focus on the new media firms located in Germany. We conducted 10 interviews of 1 to 1.5 hour duration with top

management of web-design and programming agencies (for an overview see table 1). The firms interviewed are small to medium sized firms following joint innovation product developments. The analyses of personal notes and tape recorded interviews enriched our understanding of the relationships across firms for the development of media content in project networks. In searching for unclear, unconscious or sensitive issues of inter-personal relationships while partners are engaged in the combination of creative content our study was able to improve the empirical grounding for an emergent theory (Eisenhardt, 1989; Yin, 1981).

Informed from our case study that project networks in the NMI are a combination of content and distribution firms. We differentiate between content and distribution based firms and their alliances. For content and distribution inside new media industry as a description of the industry see table 1. Our goal is to explore the alliances in the new media industry to build up knowledge and develop testable and important propositions for future research.

THEORY BUILDING

Resource-Based View and Capability Perspective on Alliances

The basis for the formation of alliances in the new media industry is to supplement the specialties of one firm with the capabilities of others (Bluedorn et al., 1994). As such the literature on the resource-based view of the firm (RBV) that also includes the capability perspective is the theoretical foundation of our investigation of alliances and their management in the NMI. The well-known work by Penrose (1959) is regarded as a starting point of the RBV and the capability perspective. Penrose's (1959) posits that a firm's capabilities emerge from internal sources as management finds means to utilize its surplus resources. A firm's capabilities developed from internal processes e.g. organizational learning have been the focus of much resource-based view of the firm (RBV) literature (Helfat & Raubitschek, 2000).

Recent research has expanded the RBV; in particular, that capability acquisition is possible through the embedded ties in buyer-supplier relationships (McEvily and Marcus, 2005). Of course, the embedded ties between buyer and supplier are stronger than those throughout a network of alliances. Yet, recent theoretical development literature has posited that evidence of capability acquisition may be present if a researcher models the investigation with the RBV accompanied with relational and social network theories (Lavie, 2006).

TABLE 1: Cases of the Interview Research

Firm	Employees	Establish	Management	Internationalization	Focus of the project; content7distribution
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B	30	1995	professional	low	distribution
C	15	1995	founder-run	low	distribution and content
F	35	1996	professional	high	content
H	15	1997	owner-run	low	content
K	60	1994	owner-run	medium	distribution and content
N	65	1996	owner-run	high	distribution and content
U	35	1995	founder-run	low	content
O	130	1994	professional	medium	content
W	15	1995	founder-run	medium	content
Z	30	1996	owner-run	none	content

Project Networks in the Media Industry

In this section our research question is directed at the structure and characteristics of project networks in the new media industry. The new media industry consists of firms that offer services based on digital technology. Main services of new medias are web-design and related programming, database management, promotional strategies, and media consulting. Some of the firms are strongly specialized; while others are broader in services offered. These differences are observed by the founder of firm F:

We are not a full service media agency like other who work on market research, advertising, network-administration, hosting, design etc. We deliver the typical creative part to web-design, which means mainly design, interface design, and digital branding.

From our investigation of the new media industry, the appearance of interfirm cooperation and the formation of an alliance is more prominent when there is high knowledge-dependency (Child & Faulkner, 1998) and a necessity to creating innovative NPD (Snow et al., 1992). As equity relationships require a greater time and asset commitment to create; firms in dynamic markets prefer non-equity alliances for NPD (Townsend, 2003; Bierly & Coombs, 2004). Especially, non-equity project alliances allow firms to cope with the challenges of dynamic markets which demand firms to accelerate product innovation and time-to-market to secure first-mover advantages (Shenhar, 2001; Matusik & Heeley, 2005).

To assist with new product development and to use external capabilities of collaborating partners, firms in the new media industry form temporary alliance projects that are based upon an alliance network (Zaby, 1990). In project alliances firms temporarily combine their specific competencies purposefully across the boundaries of single firms. The temporary frame is the actual project, but as firms can have repetitive and revolving inter-firm projects, the relationship-base of the network

shapes an overall frame of reference for several, on-going projects (Sydow, 2006). Project based alliances in their typical frame the project network is the typical form of inter-firm coordination in the media industry (Sydow et al., 2004). The formation of a project network is explained by the Founder of firm K as being:

We proceed typically as follows: A client contacts us. We then figure that we cannot achieve high quality work alone. So we search for partners from our pool of partners.

Firms can have revolving projects in their alliance portfolio. Projects are established with specific partners shaping a strategic view of the project's expenditures, contributions and outcomes (Sydow et al., 2004). The management of a project-based alliance is limited to the accomplishment of specific tasks while the relationship between the firms is embedded in a more permanent context. Firms draw on their relationships to engage in an alliance, but in so doing, they have to be aware of their partners' expectations and structures, e. g. rules and routines. As such, the performance of a project in an alliance evolves as the interplay of both tactical and strategic expectations supported by a relationship base.

This relationship-base shapes an overall frame of reference for several, still temporary, projects. The projects are established with specific partners shaping a strategic view to the project's alliances (Sydow, Lindkvist, & DeFillippi, 2004). Firms can draw on their relationships to engage in their project alliances, but in so doing they have to strategically lead their project. In the traditional media industry researchers have uncovered *project networks* so named because not only is there a web of interfirm relationships to accomplish the project, but also they are a type of latent organization embedded in institutional and organizational environments. In the traditional media industry these project networks are highly dependant on face-to-face contact to transfer highly tacit knowledge (Sydow & Staber, 2002); where as in the NMI firms communicate primarily using digital-based technologies.

While in project networks firms have the ability to institute collaboration through the configuration of multiple partners giving the partners the benefit of knowledge exchanges from numerous sources. Partners may collaborate upon content and/or distribution in their project alliances. Management of firms in the NMI become as much management of projects as is it the management of an organization that can reorganize itself as estimates of product and market volatility require (Girard & Stark, 2002).

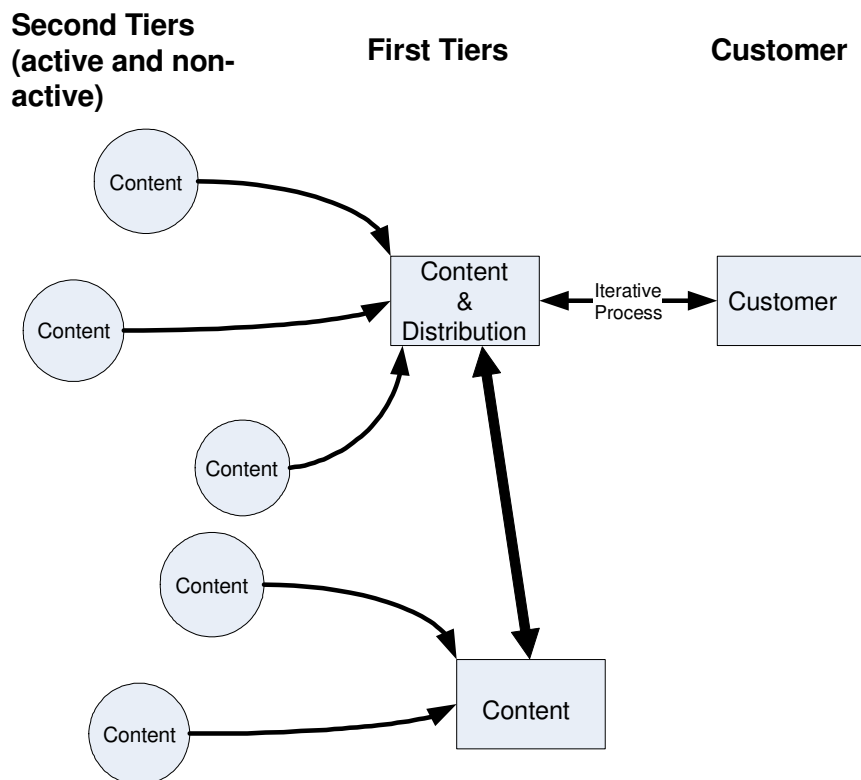
We have different forms: one is based upon capacity with similar firms—even competitors. The second is on distribution. Here we have partners that do the distribution and we deliver the content—still this is a collaboration that we seldom use. Partners here are huge in size and that means we have no power. Third, we run collaborations on

creative content. The content collaboration is most important as everyone can contribute his special capabilities (Founder of C).

... but that is different according to more distribution-service and more content-development activities in our collaboration (Founder of C).

We found the innovation of new media firms, consisting of technology- and service-components, developed through direct interaction with collaborating partners and input of the customer (see Figure 1).

Figure 1. Project Networks in the New Media industry



The founder of Z engaged in a content alliance states:

... it is tremendously difficult to tell who contributes to the development of novel content—such as design, layout, technology-implementation to what extent.

Proposition 1: Project network is a vital structure created in response to the uncertainties in the new media industry as a repository of capabilities and knowledge.

Content Collaboration in the New Media Industry

Similar to the TV Industry, collaboration of content is prominent in the NMI (Sydow & Staber, 2002). Content providers in the NMI continually must be aware that their outputs are resources adversely affected by the rapidly-changing environmental forces, such as digitalization. Digitalization has created potential for rapid resource obsolescence in the NMI by dramatically changing the way business in the media industry can be conducted. Management of content providers must decide how to maximize the commercial potential of their outputs quickly. Content developers are able to develop products for different media applications by using the common digital technology base. Especially, the larger content distributors are able to accomplish larger and up-scale projects that include more artistically creative and novel technical solutions that are partly contributed by smaller partners in the project network. Here the development process consists of discovery-driven competencies proactively developing new products by the identifying and seizing of potential opportunities. Users, respectively industrial clients, in the NMI have large numbers of diverse content providers to choose from.

Proposition 2a: Content providers rely on collaboration to gain knowledge necessary for the rapid discovery-driven new product development.

Content Distribution in the New Media Industry

Distribution of new media products is primarily the process of putting an innovative product in front of as many users through multiple channels as possible. Distributors of products are continuously looking for new ways to utilize innovations. Distributors are very dependent on their ability to be innovative in the personalizing of products. Personalization can be achieved through the platforms and the tools of the new media processes allowing customization to be quickly accomplished. The universal capability of content providers to work with other content providers and distributors to personalize and customize their innovations adds to the openness and flexibility of the environment within the industry.

The comprehensiveness of digital technology throughout the industry makes the ability for distributors to quickly find customers extremely important. Media convergence allows the delivery of new media products across any network to any user of any digital device. Competent distributors also give content developers an ally in their need to secure proprietary protection. Distribution of content is extremely dependant on

the national regulatory of innovations. The contracts existing between content developers and distributors afford both the protection of the proprietary rights. Thus, distributors who have the ability to use network externalities to rapidly expand and extend the usage of media products across national boundaries are valuable to content providers. In our interviews we found that international expansion of several content developers was fostered by their alliance with distribution providers (see Table 1).

Proposition 2b: Distributing firms supply capability in new media industry to local firms to go to international markets.

Successful distributors not only look for clients with new content, but also for firms with capabilities to re-use existing products. The re-use potential gives new media products a “long tail” (Anderson, 2006). Along with the potential for marketing new products mega-distributors are thus able to give their niche content developers markets with long-tailed revenue potential. In particular, these large distributors’ potential to increase opportunities for existing innovations adds to a firm’s revenue potentials outside of their existing marketplace e. g. this additional, and possibly unexpected revenue, improves the financing ability of both content developers and distributors. In our case-study research we find larger networks for firms that form distribution alliances. In these larger networks firms need to develop social capabilities to support distant creative product development and marketing capabilities.

Proposition 2c: Alliances in the new media industry will be represented by a project network consisting of numerous content developers and distributors to maximize both product and market knowledge.

Capabilities and Dynamic Capabilities in the New Media Industry

To reduce the research gap and assist firms’ success, our research aim is to explore the exchange of capabilities in the new media industry’s project alliances. One aspect is the relationship, which influences the perception of behavior and the ability to implement routines and changes among the partnering new medias. Therefore, our study used a critical aspect of the resource based view, renewal and relational adaptation of combined resources in networks. While in project networks alliances have the ability to institute collaboration through the configuration of multiple partners giving the partners the benefit of knowledge sharing from numerous exchanges where an atmosphere of diversity and conflict are the norm.

The Founder of firm C expresses this diverse relationship as:

The alliance projects are carried out upon 1/3 designer, 1/3 technicians and 1/3 project-managers and typically form cross-functional teams, which also are objects to the dynamics and conflicts of the inter-firm work (Founder of C).

Because success in new media is based on short product life cycles, firms in the industry experience rapid changes in their competitive status due to accelerated depreciation of core competencies from swift changes in the market. Dynamic capabilities are seen as being most valuable when the external environment is changing rapidly or unpredictably (Teece, Pisano, & Shuen, 1997; Zahra, Sapienza, & Davidsson, 2006). The topological constructs of core and edge competencies have reduced meaning as new innovations can enter the industry in more spots along the industry's value chain. To survive, firms rely on a variety of alliances to maximize their existing and developing competencies. These dynamic and flexible organizations and industry structures afford firms in the new media industry the ability of numerous opportunities for cooperation and collaboration. This cooperation potential dramatically improves an individual firm's potential to improve its profitability but with numerous risks and uncertainties. Therefore, the management of these firms must engage in continuous renewal to be able to take advantage of possible changes while protecting themselves from newer origins of opportunistic risks.

Kale (2002) defines alliance capability as the mechanisms and routines that are purposefully designed to accumulate, store, integrate, and diffuse relevant organizational knowledge about alliance management. Still, managers need more than 'once-and-for-all' and 'for all times' solutions or routines for their inter-firm projects. Managers are continually reconfiguring and/or revising the capabilities they have developed for the project and the overall project network. A firm might have diverse dynamic capabilities and also weaknesses; e. g. a strong dynamic capability to change its product development routine while at the same time a weak ability to reconfigure its inter-firm communication systems. For enduring advantages, it is especially important for new medias to choose the right inter-firm coordination in relation to the dynamic market and the novel combination of each participant's contribution. As such new medias are in need of relational dynamic capabilities.

The founder of N highlights the capabilities required:

There is a kind of same level, understanding, communication (personal chemistry), openness to new thoughts, and to the unexpected. Our partner realizes my new ideas, understands new points, and instead of 'yes, but ...' he even outdoes my ideas. This is very enjoyable; we leverage each other's strengths and feel like a team.

Proposition 4a: Firms that benefit most from project networks will be open to multiple renewals of routines and/or capabilities. Thus they will have multiple motives to be a partner in a project network.

Literature has also presented that dynamic markets are the impetus for firms to create value through processes using dynamic capabilities facilitating the communal integration of knowledge (Galunic & Eisenhardt, 2001). Dynamic markets are the impetus for organizational change (King & Tucci, 2002) which is necessary for product development to shift away from past successes and renew itself (Amburgey, 1993).

Our understanding of dynamic capabilities as the firms' ability to integrate, build and reconfigure competencies to dynamic environments is adopted from Teece et al. (1997). The dynamic capability approach is embedded in the RBV of the firm. The focus of the RBV on unique resources and capabilities; thus competitiveness is a function of the strength, identification, exploitation, and leveraging of a firms' internal capabilities and resources (Barney, 1991; Conner, 1991; Wernerfelt, 1984). The RBV recognizes a conscious analysis of internal resources, capabilities, and core-competencies and their utilization of potential markets. Also, the RBV acknowledges the often slow and evolutionary path by which capabilities emerge from internal development (Lovas and Ghoshal, 2000; Nelson & Winter, 1982). In analogy, we here direct two origins of (relational) dynamic capabilities across firms of the new media industry that are particularly important for innovation: abilities of formal and flexible routines of inter-firm project coordination.

Coordination, selection and combination are evaluated as important dimensions of the process of integration (Zahra et al., 2006); these enable the firm to build its dynamic capability. Therefore we posit;

Proposition 4b: New media firms with dynamic capabilities receive greater benefit from participating in a project network.

Management of Alliance Projects

Management of Projects The next aspect of a successfully managed firm in a project network is the exchange of the diversity of knowledge and routines to improve one's firm while completing the project. As a firm in the NMI has to continuously adapt to the dynamic market and can build up firm specific and enduring advantages from project networks, their ability to manage in a project network for new product development can be regarded as a capability. However, researchers have not given the new product development in alliances in the NMI much attention as a significant occurrence in the field of project management. Considering this context, our research focuses on management of projects.

Our projects with collaborators are similar to internal projects. All participants sit on a table and openly discuss how to achieve the task. Everyone who does not feel capable of a task says so and then we look for new or additional partners. Often we take our partners with us to the meetings with clients. But it is necessary that the climate between them and the customer is good (Founder of F).

Management of Inter-firm Relationships in Project Networks

Project alliances are a specific form, of an alliance in which capabilities of one firm are utilized by others as if they are within another's value chain. The sharing firm may be a supplier and customer and/or complementor and competitor. Thus, management is usually unable to make efficient and effective contracts, yet must rely on collaboration within project networks for their survival.

The collaborative relationship found within an alliance relies neither completely on market nor on hierarchical mechanisms of control (Ouchi, 1980; Lawrence et al., 1999). Decision-making and problem-solving are negotiation processes in the ongoing communication between and within firms (Lawrence et al., 1999); adaptations and re-adaptations are present after the relationship is set up (Doz, 1996).

Still, even if we just produce a CD we also engage in nurturing the personal relationship. The personal relationship is the foundation of collaboration. In collaboration we develop the business model further—and extend mostly our content. Before we start, we sit together. Of course everyone has his project history. This contains experiences and also critics. Ok, we discuss the project and always take a cooperative position. Only by this you can get prime results. You even can try force to get more business with a client (Manager of C).

Also in the literature it has been pointed out that socially, the traditional media industry has evolved through convergence into new forms of alliances and in the process making friends out of foes (Helminen, 2002). As such we investigated the social relationship of NMI firms. Trust related to the social relationship can be an important issue in alliances (Dyer & Singh, 1998; Nelson, 1989; Granovetter, 1985). The huge body of literature on trust provides diverse conceptualizations of how trust supports the goals in alliances (Zucker, 1985; Lane, 1998). Nevertheless, general consensus resides in the notion that trust confers to the expectation that partners do not act opportunistically (Luhmann, 1979). In the words of Lewis and Weigert “trust begins where prediction ends” (Lewis & Weigert, 1985: 976).

We rely on trust and we need to be assured that some basic values are the same across partners (Founder of H).

In the traditional media industry embeddedness is usually associated with geographical local clusters of socio-industry networks (Crewe, 1996). These networks are dependant on face-to-face interaction for the development and maintenance of trust between partners (Granovetter, 1985). In these traditional industries embeddedness literature focuses on inter-firm relationships. Therefore, we use the literature of embeddedness to establish our investigation of interfirm and social relations in the NMI with its distant and diverse network alliances. Our investigation now looks in the NMI and their project networks of content and distribution firms who are supported by digital technology not only for their product development, but also for their development and maintenance of the inter-firm communication processes. A statement shows this:

Media—no it's the content—is a real peoples business. People and Know-How are our production factors. And—always the creativity for developing the content (Founder H about a content alliance).

Reflecting on this we ask: Can the reliance on digitalization afford a replacement of the face-to-face trust development of local clusters? For a firm to take advantage of the huge potential in the project network, the management of a firm needs to adapt to new and possibly uncomfortable methods of controlling innovative progress in new product development projects. Instead of depending on controls developed for internal projects to insure adherence to productivity and economic metrics, firms in the NMI alliances open their boundaries to develop networks of complementors. A firm in the NMI needs to be open to exchanges of radical knowledge whose sources may be found in the firm's networks. These sources require diligent scrutiny to resolve individual, product, and organizational conflicts. The success of the alliance's new product development depends on networks to openly exchange new knowledge with multiple partners through nurturing, because the imposition of formal controls across multi-organization boundaries is impossible. Therefore, this nurturing is highly dependent on established trust as the opening of an organization's internal controls to allow questioning to be initiated and resolution to be achieved. This opening is risky for the knowledge exposed to opportunistic behaviour can diminish a firm's competitiveness.

Constructive critique and conflict to foster dramatic changes in the firm's competencies is a necessity in new development project alliances and networks.

Trust is always connected with experiences and constructive critic. Even on service—I mean distribution issues—we strive to work on the fundamentals of the collaboration and a joint success (Founder of C).

Yet, this openness requires dramatically different leadership for the management must separate itself from the safeness of its institutional formal controls—its established routines and rules. As the alliance formation contracts are incomplete, ties are governed through mechanisms of trust and relational governance such as friendship and reciprocity (Dyer & Singh, 1998; Nelson, 1989; Granovetter, 1985). Trust smoothes relationships in alliances (Gambetta, 1988; Gulati, 1995; Costa, 2003) as the compliance to react to changes for the sake of the alliance is increased (Morgan & Hunt, 1994), and partners are willing to make extra efforts beyond the specifications in a contract (McEvily & Marcus, 2005). Trust increases open communication and information exchange (Ouchi, 1979) of which an increased amount and velocity assists creativity and innovativeness (Ring & Van de Ven, 1994). Studies state that inter-personal and inter-organizational trust is a vehicle to reduce costs of negotiations between partners, thus from the above discussion, trust is a predictor of alliance success (Olk & Elvira, 2001).

In content partners I have high trust. We seldom fix details. I just let them work. To be honest, it is the people whom I trust, not the firm in particular. I have to tell the creative guy to do something creative on that. When he develops something, I will hopefully be happy. I can't learn to do that anyway (Founder of C).

Therefore, relational embeddedness, rich in trust, is beneficial for the development of products in project networks. Relational embeddedness refers to the effects of direct ties on interfirm behaviour (Uzzi, 1996; Gulati & Gargiulo, 1999). Embedded ties facilitate the transfer of fine-grained information and joint problem solving between the firms in alliance to develop products for the dynamic NMI. New product development (NPD) within project alliances in the NMI faces situations where detailed specifications of tasks and behavior are limited, and collective solutions are targeted as the alliance proceeds. As the alliance progresses situations such as a) collaborations with intangible resources and unknown outcomes, b) collaborations in dynamic environments, and c) collaborations that direct novel results that have inherent difficulties of predictability will be present as the product is developed (Bijlsma-Frankema & Costa, 2005).

To motivate our approach, we offer the following example: The manager of C said:

The trust we offer to our partner depends 100% on the specific person in the firm—the collaboration goes up and down with the people....Trust-giving is the result of experiences and emotions.

The manager of K stated:

We used to take detailed contracts very seriously, but we stopped that totally. If a partner acts opportunistically he will find a niche

anyway and the collaboration is dead. Too many negotiations reduce efficiency—we center on our feelings and draw on friendship and trustful relationships.

Therefore and summing up the effects discussed above:

Proposition 3a: Alliances with higher degree of trust will achieve higher performance.

But alliances that rely on relational embeddedness leave the outcomes of interaction issues to coordination, e.g. specifications and codifications (Boisot, 1995). Coordination is not easy:

You always have to keep in mind: In collaboration there are different firms. You always have to be open, motivated and to approach the different. It is not just alike Synapses of the brain (Founder of U).

A solely trust-based management style creates opportunities for misunderstandings, power games, and all the facets of opportunism. Trustful relationships are also vulnerable to problems of inter-personal chemistry and personality clashes (Forrest & Martin, 1992; Harrison & Newman, 1990). Further, relational embeddedness can constitute a social liability, if it glues partners together in a way to limit constructive questioning, e.g. group think (Janis, 1972). Instead, NPD requires a stretch of ideas and separation from existing technological knowledge; compounding this complexity is the lack of complete knowledge of the specifications of the final product. As such, relational embeddedness can create constraints that impede performance (Leenders & Gabbay, 1999) and have a more detrimental effect as the uncertainty in the environment increases (Krishnan, Martin & Noorderhaven, 2006).

When dealing with the customer we might find out that we can not achieve superior competitiveness by working alone. That is when our network comes into action. We search our network pool for partners. We have one meeting, a second and then we fix the idea. After that we approach the customer in union. Then, tasks become clearer. Afterwards, the iterative implementation starts, which is guided through a project plan. We deliver the concept and our partners deliver the creation that will be adapted and discussed with the client and then comes the real implementation. Our planning is rough. We have something like milestones after each stage: concept ready, creation ready, first part implementation, accept of the implementation by the client (Founder of O).

Therefore, in dynamic markets, project alliances need more than relational embeddedness and trust to achieve beneficial collaboration and

project success. As alliances require structure and management oversight, we propose:

Proposition 3b: Alliances based only on relational embeddedness and trust, will not achieve acceptable performance results.

As the success of project-based organizations is based upon decentralized teams and relatively autonomous project managers, the project routines across the new media firms are critical for achieving strategic leadership and success. Some of the coordination devices have to be developed within each project; while some of the coordination devices are “stored” (Windeler & Sydow, 2001) in the more enduring structures of the project network. Thus, coordination of the project is influenced by each firms’ routines of project management and the routines stored in the overall frame of the project network. The founder of C addresses this problem:

In our experience, the work with collaborating firms in the project is cyclic. The understanding is high during joint meetings and workgroups but diminishes over time. That is why we set up regular meetings with our partners.

Ability of a Formal Routine Proponents of a formal style of internal NPD project emphasize the value of extensive planning to establish steps for implementation (Zirger & Modesto, 1990). This formality defines the degree to which standardized rules, policies, and procedures govern the behavior and activities of firms (Van de Ven & Ferry, 1980). New medias that have built up formal processes of managing project alliances can use and re-adapt those structures within project networks. In line with Leonard-Barton (1992) dynamic capabilities reflect a firms’ talent to achieve novel forms of competitive advantages given path dependencies and market positions. The refinement of suitable formal instrument for each of the projects and the storing of the right and complementary practices can be regarded to as a dynamic capability. These refined and stored practices, quasi internal dynamic capabilities, are highly socially and causally embedded. Transferring or re-deploying the formal procedures cannot be achieved through the transmission of information. It requires tacit knowledge of the technical to be transferred through the social interaction across the alliance. As such firms build up unique and hard to imitate resources.

Formality, especially in dynamic markets, requires structures to be set up and adapted for each project. Therefore they incur high transaction costs, which can diminish the value of the safeguarding and collective orientation enhanced by formality. Scholars of transaction costs economics (TCE) emphasize the need of more complex governance structures with increasing asset specificity to safeguard against hazards of opportunism (Williamson, 1985). As a consequence, allying partners

would install numerous but from one project to the other adapted and changed formal procedures creating a complex and most probably an unworkable contract (Poppo & Zenger, 2002; Dyer, 1997).

When initiating NPD, each firm in a new media has a set of goals some cannot be clearly articulated due to uncertainty surrounding the process. These uncertainties can be due to internal and external factors such as partners' risk aversion and/or the inability to assess the technology and market's expectations due to dynamism and munificence (Bhattacharya et al., 1998). Due to the lack of authoritative control caused by the dynamics and uncertainties associated with content of NPD in new media project networks, firms can neither plan nor implement complete formalized processes for the development of content. In contrast, the distribution activities that direct specific customers or distribution channels can be more easily the object of planning. Formal structures by stating how operations should be performed with stages, controls, and sequences reduce ambiguity for the project's participants (Gilson et al., 2005). This formality can aid the effectiveness of the distribution of the product. Formalized procedures allow the detection and resolution of potential problems in product design and the development ramp-up in a way that reduces time and work effort (Tatikonda & Rosenthal, 2000). Formality can assist the development of a project-focus and a collective orientation of project personnel facilitating the accomplishment of the project's goals (Tatikonda & Rosenthal, 2000). Thus, new medias to achieve success find it beneficial to more strongly implement sophisticated formal routines for distribution based collaboration.

Proposition 5: With increasing ability of a formal routine, performance of new media project network distribution collaboration improve.

Ability of Flexible Routines Proponents of the flexible style evaluate internal product development as inherently ambiguous (Dougherty, 1996; Dougherty & Hardy, 1996). The goal is to facilitate team members' improvisation, creativity, and experimental learning (Lewis et al., 2002). Autonomy and flexibility permit re-adjustments when dealing with unspecified and novel contributions to achieve innovative products. The transformational strength of a flexible routine is strongly embedded in the social structure of the firm. Its idiosyncratic properties require time to develop and to be cultivated with a firm. The ability of flexible routines in inter-firm projects is thus firm-specific, valuable, and a socially complex resource that is not easily transferable or imitable across firms and thus fulfills the basic criteria of the RBV grounded on the work of Barney (1991). As such it can be understood as a dynamic capability. The dynamics and the learning within the project alliance can be stressed by the following statements:

With our content partners we are able to develop creativity in union. Creativity evolves by an experimental way. This level also improves in the end revenues; especially as we can use these results often in various projects (Founder of F).

Especially related to the project implementation by partners:

In the implementation, we have strong communication. In the implementation you need strong interactive work and mutual realization of what you want to achieve. Herein one sees what the other is doing and learns by that (Founder of K).

The ability of flexible routines does not imply a void of formalization, but of a greater reliance on the relationship to create solutions (Moorman & Miner, 1998). We argue that the ability of flexible routines allows transmitting complex, ambiguous, and non-redundant knowledge through emerging pattern of content based collaboration. The transfer and internalization of tacit knowledge of content with emerging and readjusted rules develops a pattern of dynamic capabilities that improves success in terms of increased innovativeness and improves relational procedures.

Proposition 6: An increasing ability of flexible routines will improve the performance of new media project network content based collaboration.

Formality can be very time-consuming, detracting from the accomplishment of “real” work such as prototype development or design of product components (Tatikonda & Rosenthal, 2000). Shenhar and Dvir (1996) explores the performance variable of project effectiveness while finding that technological uncertainty is a key determinant of project management style. Also, with increasing ability of flexible routines, the imposition of constraints to the firm’s freedom to act and interact can signal distrust to the partner and create opportunistic behavior that reduces performance. We argue that in spite of the product and relational uncertainty associated in the content production of new media: a) lack of knowing the exact requirements of the final product to satisfy the unknown requirements of the market b) the lack of complete knowledge of the partners’ behavior and capabilities, formal routines will be less beneficial than flexible for achieving performance.

Proposition 7: Compared to formal style, the flexible style will more strongly improve the performance of new media project network content based collaboration.

CONSTRUCT DEVELOPMENT

To assist further research in the new media industry we utilize our knowledge from the case studies to develop relevant constructs of the variables present (routines and performance) in the industry's alliances. Although this type of section is uncommon, we believe a section that furthers the reporting of relevant knowledge to be a vital component of our exploratory disclosure. We believe this to be valuable as the literature on alliances all-too-often reports on single performance metrics that in our investigation were not referred to as immediate goals or objectives in project alliances by NMI executives. In our investigation we consistently found project managers using complex and multiple measures of successful processes and project outcomes.

Numerous studies have used performance as their dependent variable, yet there is no consensus on a standard measurement or methodology to obtain the measure project alliances (Aulakh et al., 1996). The measuring of new media project network performance has to consider that these relationships are for a specific purpose and are short term projects, yet they are embedded in a project network whose success to the individual firm is partially based on a continuous nurturing of numerous relationships. The new media project therefore is the short term item; the firm-to-firm relationship is nurtured by both firms to survive and hopefully improve (Olk & Elvira, 2001). Subjective indicators are often found suitable for alliance performance measures (Todeva & Knoke, 2005) as strong correlations between subjective and objective measures were found when they were made available (Geringer & Herbert, 1989). In analogy with Arino (2003) we suggest to use measures on financial, operational, and organizational effectiveness as experienced by senior executives. We propose measures of project performance be reflective of the extent to which (1) firms achieve planned innovation through the project, (2) firms achieve unexpected innovation through the project, (3) firms achieve more effective inter-firm alliance processes, (4) partners achieve more projects in the alliance framework, and (5) firms reduce costs during the project.

The ability of formal routines reflects the formalized processes, policies, and rules within project management (Zirger & Modesto, 1990). An interviewed manager stated that everything has to be "tightly organized", and delivered within "deadlines". The sequential structure "in-between" of stages also has to be managed. Therefore, we propose formal project management be measured as: (1) the extent to which the project process strongly relied on milestones throughout the project's duration, (2) the extent to which the collaborative process was terminated and structured interaction was followed. Several firms stated that the project required fine-grained information about stages, contributions and their interconnectedness. From this information project management develops a "story board" " , which gives visual exact

information about project expectations on a sheet of paper or a poster. Thus, our advice is to measure (3) the extent to which the project routines strongly relied upon the use of e.g. joint templates and blueprints. Following also Lewis (2002), we suggest to include (4) checking the understanding of goals.

The ability of a flexible project routine reflects those processes that foster social interaction to develop responsibilities and contribute value through the reliance on improvisation. In the interviews it came up that partners “we just start and roll up our sleeves” and believe the structure of the project will develop over time by the progressive refinement of the target and desired outcome. We propose to measure (1) the extent to which the collaborative project management process develops emergently. Managers stated that they first develop an idea of a concept. In this creative exchange partners contribute components that are adapted and readapted. Steps can be changed, and the occurrence of back-coupling of processes and re-adaptations of components is common. We also suggest a measure that includes (2) the extent to which back coupling is utilized in the collaborative process. To sit together at a table and to openly exchange information about what can be done had been highlighted in the interviews. Also the necessity of checking if “which target we all follow” is important. Therefore we recommend for the measuring (3) the extent to which joint meetings are intensive and extensive with the partners. To allow for open interaction, e. g. calling up and meeting the responsible people, it showed to be necessary to assign people on the projects, so (4) the extent to which joint teams are established during all of the project stages.

CONCLUSION

Digital media has been transformed from the traditional media industry by the combination of changes in technology, business processes and regulatory oversight into a dynamic and volatile industry. The continual accelerating development of innovative new products and services has fostered the formation of project networks to rapidly contribute external capabilities to NPD. Our research brings about new insights of the management of firms within project networks in the NMI which have not been examined before. The theme of our study is that alliance formation and the management of project networks are complex processes involving relational embeddedness, capability transfer, and interfirm management that are based on a combination of relational control and trust.

As firms increasingly form alliances to improve their competitive advantage studies stress the growing need for effective management of alliances to reduce failure (Arino & Doz, 2000). Callahan and MacKenzie (1999) regard alliance management as an ill-defined, complex process. Our research closes a serious omission in the literature that is relevant for firms striving to develop innovative products which will be successful

in dynamic markets. Our propositions go beyond the development of a framework of governance (Gulati, 1998) and those of installing a dedicated alliance function (Ireland et al., 2002). We target the “how” of alliance management in an especially challenging alliance make-up: weak tied relationships that are creating innovative outcomes while being confronted with high levels of uncertainty, respectively, risk. The relational management of alliances is confronted by the risks of partners behaving opportunistically and/or by risks of compatibility that can occur even when acting collectively. Risk potential emerges easier from weak tied relationships, and also from the ease and extent of capability exchanges using digital technologies in the project network established alliances.

While focusing on the project level, not on the alliance level, we explore inter-firm project routines once firms are operating in a project network. Our results strongly deliver new insights: a) on a dynamic digitalized industry, b) formation of weak tied multi-firm project networks for rapid and innovative NPD, c) these project networks function as repositories of diverse capabilities, d) role of trust and dynamic capabilities in project networks inter-firm relationships, and e) effectiveness of project management’s, formal and flexible, styles in NPD within project networks.

We posit that in these project networks successful management of firms require develop of external facing project capabilities. These capabilities must support rapid development of innovations by the transfer and development of knowledge between complementors and competitors. We posit that management within these project networks need both flexible and formal project management routines, but rely more on flexible routines to foster rapidly beneficial collaboration to develop into reality market stretching product specifications. To find and promote these market stretching ideas firms also need to have external facing capabilities that secure relations among the two distinct firms in the NMI, content providers and their distributors.

Our research is a step beyond existing literature into the exploring of the actual management of alliances and of the RBV capabilities development. One avenue for future investigation could be in the research of leadership. As firms find it difficult to prognosis the tasks, components, and thereby detailed stages and processes of the NPD-project in advance, new leadership techniques from the NMI project networks may be developed to drive innovation and speed in firms in other uncertain environments. Firms pursuing new product development within alliances encounter more difficulties due to the need of inter-firm interactions and their potential to be both creative and destructive, e. g. difficulty in valuing resource contributions, protecting technical information, creating social relationships, and maintaining the balance of power (Doz & Hamel, 1998). In sum, our research develops propositions and constructs that provide future researchers with more precise theoretical basis for their investigations.

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