Evaluation Of Need, Motivation And Study Of Strategic Alliances Among Corporates

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Abstract

This paper attempts to review empirical papers over a period of 10 years (from 2004-2013) in the following journals: Strategic Management Journal, Academy of Management Journal, Journal of Management Studies, Organizational Science and the Journal of Business Venturing. The objective of the study is to identify the important themes, theoretical underpinnings and research ideas along with capturing important points of discussion. Also studied are, the Variables, Methods & Analysis along with the Data sources used to evaluate them. Furthermore, we glean the current state of knowledge in alliance research and also charter the road ahead for alliance research.

Introduction

Social science research on interfirm collaboration and cooperation has gained momentum especially in the last two decades (Contractor & Lorange, 2002). Moreover it has kept in tandem with the influx of strategic alliances in organizations today, which are moves of cooperation in which two or more parties come together for an agreement with varying levels of commitment and roles. According to Faulkner & Campbell (2006) cooperative activity between firms has become increasingly necessary due to the limitations of individual firms when it comes to competing in increasingly global markets, rapidly changing technologies and diminishing product life cycles. Clearly inter-firm collaboration is again something which is of prime interest to managers and scholars alike (Mowery, Oxley, & Silverman, 1996), firms entering an interfirm collaboration have also acknowledged that their success or failure now also in part depends on the other partner/s (Anderson & Narus, 1990). From being driven by regulatory compulsion, Alliances are now seen to add value for the firm and, central to a firm's strategy (e.g. Lorange & Roos, 1992), more knowledge-intensive and more likely to involve competitors (Duysters, Kok, & Vaandrager, 2000).

Also interesting to note is the evolution of the underlying theme of study. From the unit of analysis with primary focus (focal firm/s) being mostly on the dyad and partner/s (see: Chang, Chung, & Moon, 2012; Gimeno, 2004; Inkpen & Currall, 2004; Shipilov, 2006) focusing more on trust, access to resources, relationships to foster growth for the parent firms and basing more on a transaction cost (Gulati, 2012) and the resource based view (e.g.. Das & Teng, 2000; Gulati, 1999; Robert M. Grant, 1991) for theoretical explanations; the studies see a shift in the unit of analysis towards the use of an alliance as a source of information for partners and the alliance link in self as a source of competitive advantage: beseeching the unit of analysis specifically on

the link, on the theoretical front we find theories such as relational views (see: Dyer & Singh, 1998; Lechner, Dowling, & Welpe, 2006) being brought into focus. However, the recent studies in alliance research have seen a shift towards networks (Greve, Mitsuhashi, & Baum, 2013; Gulati, 2012; Newbert, Tornikoski, & Quigley, 2013; Phelps, 2010; Yin, Wu, & Tsai, 2012) and Multipartner alliances and alliance portfolios (Brass, Galaskiewicz, & Greve, 2004; Lavie, Lechner, & Singh, 2007; Dan Li, Eden, Hitt, Ireland, & Garrett, 2012; Dan Li, 2013; Ozmel, Reuer, & Gulati, 2012; Paruchuri, 2010; Yin, Wu, & Tsai, 2012). In addition, find a gradual attempt to shift from a static towards a more dynamic view of firm alliances (Anand, Oriani, & Vassolo, 2010) with an attempt to learn from the partners (Yang, Lin, & Peng, 2011), the studies also find the utilization of network theory in other unique perspectives (e.g. Phelps, 2010), where the relative importance of a firm within a network (based on position and not endogenic factors) as a source of competitive advantage. While we will cover all the studies and theories in more detail in the subsequent sections; a pattern which is being attempted to garner out through the themes of research areas in alliances is : we find studies shifting focus from alliances as arrangements simply access partner resources, moving on to focusing on the link which saw it as a resource for coevolution and mutual growth towards studies that look at multiple alliances and one firm with multiple alliances over time and space; Latest themes now overtly focus on networks, multi-partner alliances and multi-partner compatibility. Another important line of thought, albeit existing in a narrow stream of literature is that alliance termination in earlier studies was seen as a "failure". That however is not the case in the recent studies, a termination is no longer seen as a failure but as a voluntary withdrawal out of an alliance (Greve, Mitsuhashi, & Baum, 2013) for the availability of better options to both partners owing to the presence of networks and well developed ecosystems and institutions. Clearly the focus has shifted from a multi partner and alliance portfolios to now multi-lateral networks. Theoretically, from resorting to pure transaction and resource based views for explanations; learning, dynamic capabilities, signaling theory, social network, and absorptive capacities have been looked into with some newer studies looking into networks theory and matching theory.

Theories

Research in the earlier empirical studies focused more on the dyadic relationship: for example trust and control were important aspects looked into (Becerra, Lunnan, & Huemer, 2008). Trust was seen as a major facilitator for firms to enter into an alliance, foster the initial conditions. The interplay between the firms after the firms came together would be governed by controls and other mechanisms the partners create but would follow the trust construct; however such a view can be considered static although it was a co- evolutionary in real world examples. Frameworks of initial studies show how initial joint venture conditions give way to evolved conditions as joint venture partners develop an understanding of each other and adjust the collaborative process. Although these studies studied trust and control separately, they explored the relationship between trust and control in joint ventures and identified how these two critical concepts impact joint venture processes. While, the concern with such studies is that they considered trust and

controls as a staged process and not as a continually interacting process it however, paved the way for further inquiry since leads from such studies later tried to explore as to what kind of nature and form of control helped decision making between partners. The link between control and performance was also subsequently investigated (Inkpen & Currall, 2004).

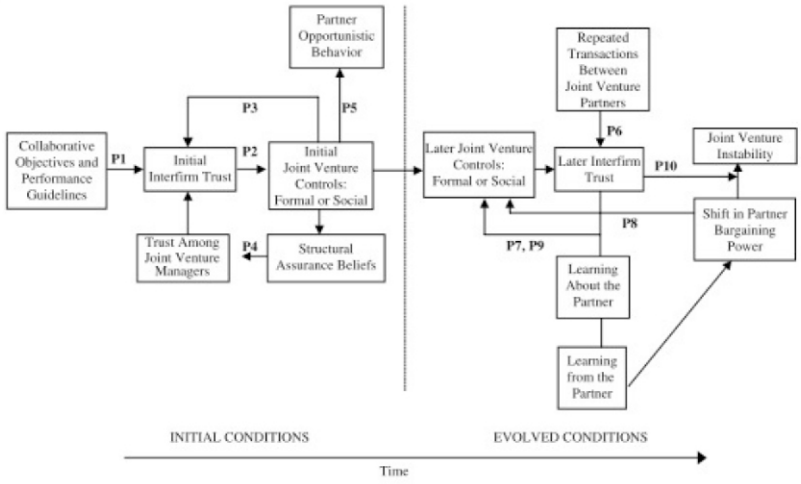

Figure 1 Inkpen, A. C., & Currall, S. C. (2004). The Coevolution of Trust, Control, and Learning in Joint Ventures. Organization Science, 15(5), 586–599

Around the same time there were studies focusing on entrepreneurship and alliances focusing on startups' which made use of strategic alliances to establish themselves. Chang (2004) examines the effects of venture capital financing and strategic alliances networks on startups' performance. Both venture capital financing and strategic alliances were found to affect startup's performance in two important ways. First, they provided a startup with much needed resources such as cash and complementary resources. Second, they provided legitimacy to other resource holders, thus indicating that it is worth investing in or providing resources to a startup. On average, a startup that has such financing and alliances will go to IPO more quickly than will a startup that lacks them; highlighting how alliances facilitated firm growth. Amongst many reasons why a startup suffers to garner investments and potential partners to ally with is because of uncertainty, therefore investors, employees (potential), suppliers and buyers were found to be hesitant to provided resources to startups. So to gain legitimacy one way for startups was is get endorsed by respectable institutions such as venture capital firms. Since startups bank heavily on them for funds, contacts and managerial advice. Venture Capital firms, (*henceforth VC*)firms also raise money from the investors and give it to the startups, since the VC's take a fraction of the amount they are motivated by high performance of the startups and

other avenues in which they invest. So they are unlikely to invest in startups with poor prospects, and would rather invest in those companies which have better and brighter prospects. Thus when startups get investments from credible VC's it is endorsing (signaling theory) the startups legitimacy providing it with credibility, building a startups image and therefore facilitating its access to resources. The reason to cite the above studies show the two ends of the way in which theoretical treatments were studied with respect to alliances and also lead toward the initial development of a network from a mere dyadic linkage between a VC and a startup. From mere access to resources, in which trust and lack of opportunism facilitated the alliance in another end we find how resources were "created" in the alliance when it came to start-up and other entrepreneurial firms. Walter, Auer, & Ritter (2006) also had an interesting study in which they explore how startup and other entrepreneurial firms utilize their inter-organizational relationships towards organizational performance in addition towards their own entrepreneurial orientation in a study of university-spinoffs they showed the moderating effect of network capabilities on the link between an entrepreneurial orientation and organizational performance. Here the alliance was seen as a medium to avoid being outlearned and out-learning. Other studies did touch upon the role of competition within an alliance network. (Gimeno, 2004) studied competitive relations that exist when firms seek out the same limited resources or target the same markets or customers. Since firms differ in their strategic positions within an industry therefore, they vary in their degrees of niche overlap with other incumbents. The concept of strategic groups to group firms into discrete clusters with high strategic similarity and niche overlap have therefore been used. Major reasons to underpin these cooperation difficulties include that the alliances of direct competitors may lack goal alignment because of the strong incentives to behave opportunistically and gain a benefit in market competition. Rivals will, therefore, have strong incentives to draw private benefits beyond the common benefits of the alliance also, direct competitors may face a risk of uncontrolled information disclosure that would allow competitors to appropriate capabilities and disband alliances.

Studies then gradually shift the impetus from just access to resources (after acknowledging the importance of alliances towards firm performance to managing them). Research now took to the nature of the alliance, the strength of the linkage and the benefits of an alliance experience to an observable performance outcomes through quantified measures. Alliance type, alliance experience and alliance management capabilities were now studied through linking the type of alliance and its observable outcome either through products or other observable and reportable/disclosed metrics. To illustrate an example of such studies, (Rothaermel & Deeds, 2004, 2006) developed models that links differential demands of alliance type and the benefits of alliance experience to an observable outcome from a firm's alliance management capability. They find that alliance type and alliance experience moderate the relationship between a high-technology venture's R&D alliances and its new product development. Alliance management skills is

found to have been built over repeated engagements over time. Such constant reiteration of engagements helped in creating codified routines, procedures and policies as well as tacit knowledge with respect to the entire range of alliance management: beginning with partner selection to alliance management and finally termination. Learning effects were found to have a positive impact as firms with prior alliance experience were found to receive a favorable stock market reaction when a particular news pertaining to alliance formation was announced. So the introduction of a dynamic view of an alliance in itself as an evolving entity, one in which partners can learn and evolve also gave rise to the reservation and fears: knowledge now although an important strategic asset was also susceptible to misuse and leakage. The unwanted effects of entering into an alliance now included (Gerwin & Ferris, 2004; Mowery et al., 1996) technology spillover. But, research in the transfer of knowledge either through codified, tacit or other means largely remained untouched till the concepts of absorptive capacity (Cohen & Levinthal, 1990) were brought in mainstream literature. Studies then began focusing on alliances that came together for the purpose of learning from each other, (in addition to other reasons, but learning was an important objective as well), and the divesture/termination/early call off of the alliance after one or more of the partners had learnt the other through the alliance as a medium. Important theories used to study alliances now were organizational learning theory (see for the initial concepts: Bacharach, 1989; Barkema, Shenkar, Vermeulen, & Bell, 1997; Kogut, 1988), which posited that firms have tried to balance, exploration and exploitation from alliances. While trying to understand exploration and exploitation between partners, and also amongst the first studies Lavie & Rosenkopf, (2006) argued that absorptive capacity and organizational inertia impose conflicting pressures for exploration and exploitation with respect to the value chain function of alliances, when firms try to balance both exploration or exploitation within each of these domains. Lavie & Rosenkopf, (2006) find that firms balance their tendencies with respect to structure, function and attribute to explore and exploit over time and across domains therefore for the first time actually illustrating the dynamic nature of the alliance.

The knowledge based view (Grant & Baden-fuller, 2004) however was the most tried theory to unravel the link between alliance type and the ability of partner forms to access knowledge: stronger the alliance form (link) more tacit knowledge can be uncovered (which may be embedded in individuals, routines, networks, processes). Since problems associated with acquiring knowledge-based assets are primarily twofold: ex ante market failure caused by information asymmetry (Srinivasan & Koza, 1993; Teece, 1977; Williamson, 1979) between the acquiring and the target firms and ex post organization failure caused by the difficulty of integrating the target firm's knowledge assets into the acquiring firm after the acquisition Together, the set of ex-ante and ex-post problems made knowledge acquisitions particularly challenging. Therefore more committal forms of alliances like joint ventures are more facile to gain access to partner knowledge. And we find therefore most studies on firms which came primarily for the purpose of knowledge and to access knowhow bank more on this theory.

Another Core area of Strategic Management research has been to study the process part: the influence of alliances on firm performance. Here alliances are considered as wellsprings of

innovation and capabilities. Phelps, (2010) in his longitudinal study of 77 telecom firms showed that firms that have access to networks and alliances have better access to learning and innovation firms and that the technological diversity of a firm's network enhances exploratory innovation. Furthermore the density of a network around a firm influences this diversity. Yet, it was still unclear that in how and what conditions alliance networks influence firm innovation, this is still an untapped area.

The importance of networks started gaining momentum with (Fernhaber & Li, 2013; Lechner, Dowling, & Welpe, 2006; Madhavan, Gnyawali, & He, 2004; Ozmel et al., 2012; Parker, 2008; Shipilov, 2006; Zhao, Anand, & Mitchell, 2005) the development of the open network perspective: In which firms can obtain important performance advantages while exploitation of relationships that partners do not have between each other. This absence of direct ties is called structural holes are located at different parts of the network and all have heterogeneous sources of information (this is treated as a source of competitive advantage). The focal firm connecting them, therefore has a lot of deal making opportunities. Maintaining such relationships has seen studies point out both - negative as well as positive views on the same. To resolve this conflict important questions being asked are: whether all firms occupying such networks rich in structural holes benefit? There are still conflicting studies and yet there has been no significant conclusion. Yet, open networks are said to provide firm with information on the existence of business opportunities enabling firms to exploit them.

The development of network theory from the traditional literature on alliances has also started to see fissures: Most network literature attribute alliance stability to inertial and embededness in a network, and a failure of the alliance to internal conflict between partners But there is it is another stand by Greve, Mitsuhashi, & Baum (2013) who use matching theory to show that partners also seek to optimize the commercial and technical value of the alliances in pursuit of which they may be attracted to options outside their dyad/alliance. Instead of looking at terminating an alliance as failure the Greve et al. (2013), also look at it as availability of more options. A firm will be likely to withdraw when there is a higher density of outside options that have better match potions then the current partners. Because matching is two sided outside options have a greater impact on a firm's withdrawal when they are likely to initiate new alliances. This view departs from the traditional work that demonstrates stickiness and stability of alliances resulting from embededness to a role where the network is seen as a major influencer in helping make decisions on whether to continue in an alliance.

Other empirical studies have also been carried out in the domain of partner selection, while the aim of alliances especially in R&D has been the utilization of partner's competence, a lot of measures has been taken by firms to safeguard its own technological interests. The TCE argument proposes (most vocally used in such studies) an equity arrangement to reduce opportunism amongst partners as discussed earlier, and that joint ventures are a unique way to reduce opportunism and also to effectively promote knowledge sharing. Another polar view, to avoid unwanted information dissemination is narrowing the

scope of the alliance: also found to reduce untoward leakages (D Li, Eden, Hitt, & Ireland, 2008; Dan Li et al., 2012) . As per the current research[1] firms are said to use alliance scope, governance structure and partner selection as substitute mechanisms to protect valuable technological assets from appropriation.

Recent studies (2010-2013) dealt with post hoc alliance effects & post formation change dynamics (the pattern is now towards a more dynamic view and started dealing the structures of the alliances and what happens after the alliance formation), evaluated how sometimes partners respond to an initial dissatisfaction by changing ownership structure. This continual change was seen to lock the venture into bad choices and sends it in a downward spiral. Such studies (Brouthers & Bamossy, 2006; Chung & Beamish, 2010; Dan Li et al., 2012) challenges the adaptive viewpoint (proposed much in alliance dynamic research) theorize this as a trap of continual change.

Anand, Oriani, & Vassolo (2010) with the help empirical evidence from a sample of pharmaceutical firms entering the new biotech fields indicated that both technological and complementary capabilities potentially affect firms' entry into emerging technologies and entry mode (time duration). These studies pointed out the effect of entry (early, intermediate, and late) and showed that capabilities in the traditional technology and the emerging technology have different effects. Firms with competence in technology that is emerging are more likely to enter new technological fields and more likely to use internal development in doing so. Complementary capabilities between partners are also seen to influence increase the rate of entry into emerging technological fields. What was also revealed was that propensity to enter new fields was further unrelated to capabilities in current technology, and to the choice of entry mode. Such studies were utilizing theoretical concepts from dynamic capabilities and evolutionary theory to look into alliances. Another strand of theory looks into the institutional regimen: Cross-national variations in corporatist institutional structures (which reflect differences in underlying cooperative norms) influence the relative importance that firms place on a prospective partner's social value (evidenced from the partner's connectedness with members of its industry) and technological value (reflected in the technological complementarity and novelty of the partner's knowledge). Vasudeva, Spencer, & Teegen (2013) checked that as prospective partners' technological value increases, chances to enter into an alliance increases. For most for firms residing in less corporatist countries the chances bleak. Norms regarding knowledge acquisition within an alliance are varying across countries, with approaches with respect to intentional learning serving as the norm in less corporatist settings. It is believed such differences will lead to more immediate interpartner knowledge acquisition in less corporatist environments. Further studies on partner complementarity and cross national variations investigated how strategic alliances are used to access and learn from partners' knowledge and thus enhance their innovativeness, when the knowledge sets between partners is complementary. But, differences in cultural and business practices, as well as a lack of trust between local and foreign firms made it more difficult for both partners to absorb and integrate their complementary knowledge bases (making this unique from the erstwhile dominant knowledge view, here institutional factors also come into play).

[1] As per the trends observed in papers in journals in 2013.

In the last important theoretical strand, included the association of strategic alliances with weak legal and regulatory environments in the host country that make the integration of complementary knowledge sets challenging in emerging economies. Fang (2011) studied existing literature and indicated a lack of clear explanation of the effect of knowledge complementarity on new product innovativeness; in response, Fang (2011) examines the moderating role of new product development process characteristics and external environmental factors. More recent theoretical explanations being looked into are from social exchange theory which are being used in addressing how governance mechanism/structure can reduce leakage concerns and facilitate knowledge transfer (desired knowledge) in Multilateral Alliances in which the complications increase as the number of partners increase (Fernhaber & Li, 2013).

Methods and Variables used

While there are many methods used to test the hypothesis in the studies, most methods are in the domain of Regression Techniques. Also, the studies in this duration (2004-2013) were carried out on available archival data to test the hypothesis the sources and type of data will be dealt with subsequently. While it is beyond the scope of this paper to comprehensively cover all the methods in depth major analysis methods are looked into prefatorily and illustrated with the help of suitable examples/studies.

We will briefly touch upon the methods & key variables used in a majority of the studies/ key studies. Amongst the regression methods discrete time event logistic regression (e.g. Li, Eden, Hitt, Ireland, & Garrett, 2012, Gimeno, 2004), regression using logarithmic growth models (e.g.Shipilov, 2006), time series using GLS estimators (e.g. Lavie & Rosenkopf, 2006), hierarchical negative binomial regression (e.g. Lavie, Lechner, & Singh, 2007) and panel regression methods were used for analysis. While there were simpler OLS regression techniques (Fernhaber & Li, 2013; Zaheer, Hernandez, & Banerjee, 2010) such studies using the simpler techniques to estimate models were scant. Random effects probit models (Vasudeva et al., 2013) and heckman probit models which simultaneously helped to estimate two Probit equations were used in studies which evaluated dynamic capabilities in alliances that faced discontinuous technological change (Anand et al., 2010). Many of the studies also carried out factor analysis to check whether the variables being referred to were of different constructs. To evaluate time to an event (Such as the IPO initiation, major event, alliance termination, time to break even) the Cox-Regression Model (e.g. in which the dependent variable in the hazard model is a hazard rate that denotes the likelihood that a firm will go to that event in each period)was used. The Cox's proportional hazard model estimates the influence of explanatory variables (or covariates) on the hazard of the event without specifying a parametric form for the precise time instead it ranks them in a temporal sequence.

The dependent variables in most studies included sales growth, new product developments (to measure the learning effects, measure the position held in a network) categorical variables, acquisition performance measured with suitable return ratios, changes in ownership (impact of low alliance performance on governance

structure) , subsequent change in brokerage, impact of equity based governance (reduction of opportunism and improvement of trust), market success, innovation radicalism, network and technological diversity attained, likelihood of entering (to evaluate when a firm will prefer internal development over an alliance) into an alliance from this it can be inferred that most of these figures measures a certain tangible effect on the firm performance owing to the impact of an alliance, all this is in line with the theory as described in the earlier section that try to show that the impact of alliance on a firms absorptive capability, learning effects and influence of entering into a network. Independent variables looked at were pre alliance factors such as prior alliance experience, strength of an alliance, equity structure of the alliance technological capabilities (prior to alliance). Other institutional factors were country level variables such as corporatism, social values, and legal norms. Partner specific and network specific explanatory variables included complementary skills, alliance scope, firm specialization, presence of structural holes, expertize in alternate domains all these are partner specific to the demographics of the firm prior to entering an alliance.

To measure the impact of the explanatory variables, majorly all the studies controlled for more than one of the following variables that included related acquisition, mode of payment, firm size (parents size in terms of employees or/and market capitalization as the case may be), industry relatedness (so that the same type of firms were analyzed), types of products (whether industry or consumer), size of the economy (using county of alliance figures), alliance tenure. The moderating effects of governance structure, no. of partners, network capability and scope were studied in cases and alliance capability served as a mediating variable in some of the studies (e.g. Heimeriks & Duysters, 2007) between experience and performance although explicit mentioning of moderating and mediating variables were absent in many studies.

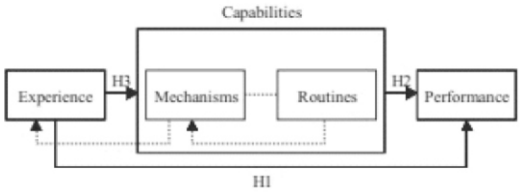

Figure 2: Alliance Capability as a mediating link between Alliance Experience and Performance. Heimeriks, Koen H.; Duysters, Geert. Journal of Management Studies. *Jan2007, Vol. 44 Issue 1, p25-49. 25p*

The sources of data in most studies were publicly available information, and a pattern in most studies were that the sample mainly consisted of firms that were in hi-tech industries such as pharma, IT, biotech, airlines and banks (Although the sample size varied considerably from 50 -2000 alliances analyzed). Primarily owing to the reason that alliances taking place in such industries are high, also termination rates and denser networks could be amongst the other reasons. The time duration of most studies was a 10 year to 50 year bracket between two important events (such as the beginning of a revolution (IT) to the conclusion), Data bases such as the Nikkei Database, Securities Data Cooperation (SDC) Database (Venture Economics Database), US patents office, Published handbooks, Bio-Scan Reports or other industry specific reports that divulge R&D information and spending, Corporate Exchange reports. As the case was required

questionnaire and personal interviews to make up for the lack of information were taken by most authors. Also most of these studies utilized information that was readily available on credible data sources.

Current State of Knowledge & Avenues for Research

On the basis of the studies above important findings, in addition to most received wisdom show the trends that as we move from singular dyads to multiple partners and now complex networks the importance of alliance scope and governance are important moderators for not only the alliance but also the parent firm success; this in addition to a strong equity based structure which is also seen to reduce opportunism between partners (Dhanaraj & Beamish, 2004; Dickson, Weaver, & Hoy, 2006; Inkpen & Currall, 2004; Krishnan, Martin, & Noorderhaven, 2006; Dan Li et al., 2012; Young-Ybarra & Margarethe Wiersema, 1999). Initial poor performance may sometime trigger changes in organizational structures however it must be noted on the basis of the above studies that short term changes can be absorbed, however it is in the long term that incessant changes in the alliance structure can take the alliance in a downward spiral, this is an important point to consider seeing trends across firms as well as research which has seen the unit of analysis form a partnership to a complex network of embedded organizations (Brass et al., 2004; Gimeno, 2004; Gong, Shenkar, Luo, & Nyaw, 2007; Gulati, 1999; Lavie et al., 2007; Dan Li, 2013; Parker, 2008; Paruchuri, 2010). However the empirical research on multi-partner and complex networks are limited owing to limitations on what kind of variables need to be selected and dealing with the complexity of data (Fernhaber & Li, 2013).

The importance of institutional environment and norms specific to a country is also seen to affect partner selection, these findings can help managers and researchers base the selection and behavior of alliances (Vasudeva et al., 2013) what needs to be yet studied, and it may also throw up interesting findings: is how cross border alliances shape the economic environment and not necessarily the other way (how institutional environment helps shape alliances) around with the passage of time. Also given the demand on fims to innovate in order to survive, the importance of exploration and joint coordination is well established since it is not practically feasible for firms to innovate on their own, interesting questions in this domain which yet seek explanations are how intra-organizational learning can be influenced with its interplay with inter-organizational learning and with suitable measures to measure absorptive capacity and organizational inertia. Also the impact of various time intervals between exploration and exploitation in adjusting temporal adjustments too needs more reflection. Although studies on the relationship between knowledge complementarity and product innovativeness have been carried out in developed countries, how the link will behave/perform in developing nations with not robust legal systems still needs further deliberation (Fang, 2011).

Greve, Mitsuhashi, & Baum (2013) showed in their empirical work evidence that outside options matter for the stability of a network shifting focus from a largely popular view that firms remain embedded in a network

owing to organizational inertia and stickiness. This tries to reinstate a balance between task and social based origins. But in order to advance this viewpoint we need to now look into other dimensions for match quality. For this we can combine earlier research on trust, controls and governance and then look at modern methods such as match quality and social exchange theory. While we adhere to both these views, what also needs to be understood is how the other factors such as size of the organization affects the link between network position and power. It has been observed that larger the firm more power it has viv-a-vis its other partners in the network (Shipilov, 2006).

Results from studies such as (Rothaermel & Deeds, 2006) show that there is an inverted U Shaped relationship between number of alliances and firm performance regardless of the type of alliances.

However we have also noted that it is now important for firms to get into multiple networks and alliances for competitive advantage. So we need to address this gap by tracing the evolution of a firm's alliance management capability over time. Other studies such as (Dan Li, 2013) showed that when market uncertainty exceeds a certain level, ventures do not form multi-lateral alliances which forces us to requisition conventional wisdom that opines that networks and alliances may be required in order to sustain R&D efforts. Studies both empirical and theoretical are still rare in this area.

Through means of this review article we have gleaned the current thought process published in the mentioned journals for the period of 10 years (2004-2013). Tried to identify the major theoretical underpinnings, identify the major methods estimation techniques and variables, understand the themes being researched on and identify prospective areas to carry future work. The aspiration of this article was to briefly provide the reader the state of the empirical work with an emphasis on the theory and major ways used to deduce them.

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