

How Institutions Imprint on Networks?

The Comparative Study of Two Chinese Start-up Cohorts

Chenjian Zhang

czhang@bigsss.uni-bremen.de

Visiting researcher at Stanford University

PhD fellow

Bremen International Graduate School of Social Sciences

University of Bremen, Postfach 330 440

FVG - West, Wiener Strasse/Ecke Celsiusstrasse

28334 Bremen, Germany

Justin Tan

Professor of Management

jtan@schulich.yorku.ca

Room N305D, SSB

York University 4700 Keele St. Toronto, ON M3J 1P3 Canada

Each fresh cohort is a possible intermediary in the transformation process, a vehicle for introducing new postures. The new cohorts provide the opportunity for social change to occur. They do not cause change; they permit it.

Ryder (1965: 844)

1. Executive summary

The debate around the literature on the evolution of organizational strategy can be categorized as two perspectives: strategic adaptation and inertia tendency (Boeker, 1989a; Hannan & Freeman, 1984; Rajagopalan & Spreitzer, 1997; Van de Ven, 1993). Adaptive perspective suggests that new venture organizations can make adaptive response to reflect the changing conditions and nascent entrepreneurs play an important role in monitoring the changing environment and evolve their strategies to fit into the new environment (Boeker, 1989a: 490; Nicholls-Nixon, Cooper, & Woo, 2000; Rajagopalan & Spreitzer, 1997). The inertia perspective suggests that firms are constrained in their ability to adapt and they demonstrate the tendency to preserve their initial strategies and resist to changes.

Deriving from these two perspectives, a growing body of research focus on organizational and entrepreneurial networks. Network change perspective drawing on transaction cost theory and resource-dependence theory (Pfeffer & Salancik, 1978) stress the benefit of network change and argues that networks are flexible enough to be created, adapted and easily dissolved (Kim, Oh, & Swaminathan, 2006: 704) as a respond to environmental changes (Lang & Lockhart, 1990; Madhavan, Koka, & Prescott, 1998) based on its rational calculation and return-cost comparison between existing and potential new partners (Kim et al., 2006: 706). Network inertia perspective drawing on the structural inertial theory and organizational ecology theory focus on constraints of former ties and demonstrated the difficulties and impediments in subsequent network change process (Kim et al., 2006: 705).

As (Boeker, 1989b) argued that the intriguing research question around the

debate is to understand the mechanisms of network change and network inertia. The reasons for network change can be analyzed from internal and external forces. The internal forces is driven by the strategic growth motivation: the network structure model: “evolve from identity-based during its emergence to calculative in response to changing resource needs and acquisition challenges associated with the growth of the firm”(Hite & Hesterly, 2001a). The strategic model suggest that network evolution is a process in which the entrepreneurial network evolves from a social network to a business network and finally to a strategic network. The external forces come from two major environment dimensions—uncertainty and munificence---affect the available opportunities and resources, and thus determine the different patterns of network change (network expansion, strengthening, churning and shrinking).

Network inertia perspective draw heavily upon Stinchcombe’s (1965) imprinting thesis regarding the enduring influence of new venture’s founding history on the trajectories of organizational behaviors and outcomes. A handful studies have shown this imprinting effect (Johnson, 2007: 98). However, inertia perspective on network lacks insightful studies to unearth the network “path-setting” mechanisms(Milanov & Fernhaber, 2009). Several exceptional studies can be categorized as founding environmental imprinting and initial alliance imprinting. For example, Marquis has shown that the founding environment, such as social technology available during the establishment of community-based interoperate networks continues to influence contemporary network structures (Marquis, 2003), organizations must interact with regulatory agencies, suppliers, customers and other organization in the same organizational field(Nohria, 1998; Scott, 1995). The network size and centrality of new venture's initial alliance partner imprinting on the subsequent development of the new venture's network size(Milanov & Fernhaber, 2009).

Overall, previous studies divided the network dynamics into two scenarios, studies from both perspectives emphasized on the environment, network inertia look into the founding environment while network change look into environmental change. There is an intriguing question remains here if we take both the effect of founding environment and environmental change, which network scenarios would be more

likely?

We responded to Lounsbury and Ventresca(2002)'s appeal for revisiting Stinchcombe's (1965) imprinting statement and stimulate more "institutionally-rich studies" to inspect how deep-seated beliefs and norms have a persistent influence on organizations(Lounsbury & Ventresca, 2002; Marquis & Huang, forthcoming). We hereby identify the research limitation in existing literature and make the contribution to literature on imprinting effect on network evolution from the institutional perspective.

First, scholars need to "look beyond the task environment to explore the interaction among institutions"(Peng, 2002) and how this interaction jointly shape the imprinting effect(Scott, 1995: 109-114). The cost-benefits calculation of tie dissolution and new tie formation has been criticized without the notice of entrenched informal institutions such as network cultures and norms. In literature on environment changes guiding the effective network building and adaptation(Koka, Madhavan, & Prescott, 2006), "the market-based institutional framework has been take for granted" with formal and informal institutions have been left out of the focus(Peng, Wang, & Jiang, 2008). Scott recently criticized the imprinting studies along the Stinchcombe's vein "did not systematically assess changes in normative and cultural-cognitive models and norms governing these organizations" and argue that newly founded organizations considerably differ from early counterparts in the institutional logics and internal characteristics(Scott, 2008: 158). Unfortunately, few researches have been conducted to explore this imprinting and its differentiating effect among organization cohorts through institutional lens. This study attempts to take the both formal and informal institutions and its transformation into substantial consideration and examine how institutional environment together with organizational and entrepreneurial characteristics jointly shape this imprinting effect.

Second, imprinting literature investigates the reality by overly emphasizing on organizational population (Editors, 2010; Hannan & Freeman, 1984) with alarmingly less attention attached to entrepreneurs(Johnson, 2007). The difference among entrepreneurs and their organizations are much greater than one might expect(Gartner,

1985), the logic behind the imprinting might be unlike when the analytical unite shift to entrepreneurs. On the inertia side, the change of inter-organizational network might be difficult because of the institutionalization of exchange norms and routines , however, the complex mix of entrepreneurial background, experience, attitude and age could lead to lead to the reluctance to changing networks (Casson, 2005: 343; Hite & Hesterly, 2001a; Larson & Starr, 1993; Sarason, Dean, & Dillard, 2006) while the underlying mechanisms are not clearly and consistently postulated. To gain more a breakthrough understanding of entrepreneurial network imprinting, we need pay particular attention to entrepreneurial characteristics and their tie features.

Third, a process-based and comparative approach is essential in exploring the above mentioned issues and stimulating new theoretical ideas (Hoang & Antoncic, 2003a: 183; Jack, 2010). Empirical studies have examined the network imprinting by demonstrating the lasting effect of initial network structure using quantitative methods. Little is known about how imprinting actually occurs and unfolds. On the other hand, the longitudinal studies only partially test the imprinting effect of founding conditions by tracing the network trajectories of a sample population over a certain time period, without cross sectional comparison of the their counterpart organizations or entrepreneurs at different founding point.

2. Theoretical background

Network change

In network change stream, resource dependence perspective has been strongly emphasized in the fundamental themes of network formation and network change. Organizations and entrepreneurs create ties with other entities that have resources and capabilities to satisfy their diverse needs and cope with environmental constraints(Pfeffer & Salancik, 1978). Network change is necessary and beneficial when organizations have diverse resource needs. Second, this perspective suggests that network co-evolves with environmental changes and organizational life stages. For example, environmental changes affect firm's network change by affecting the opportunity set and resource availability, thus lead to different patterns of network

change(Koka et al., 2006). Network co-evolve with entrepreneurial stages (such as: pre-start up, establishment and growth) with different resource need and entrepreneurial goals. Third, the postulation underlie the network change perspective is that organizations and entrepreneur can monitor the environmental change and venture growth, different resource and tasks, and make strategic adaptations. Empirical studies have found that firms make changes of their inter-organizational networks to strategically response to environmental change (Lang & Lockhart, 1990; Madhavan et al., 1998).

Insert Table 1 about here:

Network change and network inertia: theories and dimensions

Network size and diversity. The increase(decrease) in environmental uncertainty and munificence would lead to network expansion(shrinking) strengthening(Koka et al., 2006). Khanna, Gulati, & Nohria (1998) found that when environment becomes more competitive, organization are more likely to form new and diverse networks who have marketing and technological capabilities. Institutional transitions as fundamental and comprehensive changes in transitional economies would move a network-based strategy to market-based strategy which suggest the considerable decrease in network size(Guthrie, 1998; Peng, 2003). Firms would be more interested in diversifying their networks to explore new opportunities(Peng & Zhou, 2005). With the firm develop from initial stage to growth, firms add more diverse networks to meet the increased scope of resource need(Hite & Hesterly, 2001b).

Network strength and strategic orientation. Peng & Zhou(2005) argues that As institutional transition unfold, strong-tie-based networks(uncertain institutional environment) are transformed into weak-ties-based networks. From the firm stage perspective, as firms transit from emergence stage to growth stage, from primarily socially embedded and cohesive (strong) ties to add more arm's-length(weak) relations(Hite & Hesterly, 2001b). Hite & Hesterly further suggest that strategic needs and adaptation interact with environmental change and developmental phases, lead to

the strategic network management. As firms move to early growth, firms can intentionally adapt and manipulate the egocentric network, such as increase size, diversity and exploit structural holes.

Network inertia

Although some inquiries have helped us understand why network inertia happens, we know less about how network inertia actually occurs. “Network inertia” argument can be traced back to following theories. It draws on structural inertia theory of organizational ecology and suggest that network inertia is “a by-product of the previously successful management of networks that generate synergies for the participating organizations”(Hannan & Freeman, 1984; Hannan & Freeman, 1989). Neoinstitutionalism offer much details about inertia process: actors conform to rules or beliefs to gain legitimacy from other social actors (DiMaggio & Powell, 1983), how network routine became institutionalized and stabilized. Following the organizational imprinting theory, (Milanov & Fernhaber, 2009) add a network perspective and discovered that new ventures’ initial alliance network size and centrality imprint on their subsequent network trajectories. Strong personal tie may lock an organization into unproductive relations with its partners and restrain members from exploring other possibilities, thus possibly lead to network inertia (Galaskiewicz & Zaheer, 1999; Hansen, 1999).

Network inertia derive its perspective from the imprinting effect of new ventures’ founding environment and initial network partners, institutionalization process, however none of those theories provide the insightful study to unpack the imprinting phenomenon to understand how the initial networks between partners and its founding context is produced and affect its subsequent trajectories(Johnson, 2007) and more “institutionally-rich studies” should be stimulated to fill this gap(Lounsbury & Ventresca, 2002; Marquis & Huang, forthcoming). In the following text, we will focus our attention on how three institutional pillars

Institutions and networks

Institutions have three pillars which empower entrepreneurial activities as well as constraints on entrepreneurial behaviors. *Regulative pillar* arises from governmental legislation, industrial agreements and standards which inspects entrepreneurs' conformity by sanction and rewarding systems (Bruton, Ahlstrom, & Li, 2010; North, 1990; Scott, 2008: 422). These formal rules lead the entrepreneurs and their organization's compliance if they wanted to be viewed as legitimate. However, the institutionalization of formal rules create stability and inertia. (Marquis & Huang (2010, forthcoming) provides an example showing that the founding institutional conditions (such as policy) imprinted on organizations, the legacies of this conditions and coping strategies has been internalized as repositories of subsequent organizational capacity. These habits and routines of conformity produced and reinforced when regulative pressure is strong and pervasive. However, in the context of lack of legislative frameworks, entrepreneurs hardly can rely on unstable formal institutions, instead they develop the networks as a substitute for the institutional voids (Xin & Pearce, 1996).

Normative pillar introduces the prescriptive and obligatory dimensions in entrepreneurial and organizational behavior, these systems are composed of values and norms defining what are considered proper and how things are to be done. It is typically viewed as imposing the constraints on change because it is deep rooted in social necessities that delineate roles and expectations for entrepreneurs (Bruton et al., 2010; March & Olsen, 1989; Scott, 2008). Network change is assumed to be difficult and costly when following two dimensions are considered. First, organizational networks is infused with mutual expectations and anticipated obligations, the specific styles of exchange is institutionalized through formal and informal routines, the magnitude of normative pressure depends on its embedding organizational field and more broadly, national culture (Baum & Oliver, 1991). Second, social networks form the relational system (Scott, 2008) where members draw the shared normative framework and persistently screen the individual entrepreneurial behaviors (Gargiulo & Benassi, 2000; Kilduff, 1993), the tense interaction over time with initial direct and egocentric networks results in overembeddedness and lead to

network inertia(Doz, Olk, & Ring, 2000; Ebers, 1997; Hite, 2005; Uzzi, 1996).

Cultural-cognitive pillar includes the accepted beliefs and values shared and accepted by entrepreneurs based on subjectively constructed and internalized rules and meanings that facilitate and limit the beliefs and actions(Bruton et al., 2010; DiMaggio & Powell, 1991; Scott, 2008). In imprinting literature, a handful researches have investigated how founders and teams bring the initial organizational culture and how this imprinting endures over organizational development and affects its adaptation(Eisenhardt & Schoonhoven, 1990; Pennings, 1982; Schein, 1983). Less is well known how social culture imprint on entrepreneurial and organizational networks (Parkhe, Wasserman, & Ralston, 2006)since this pillar draws extensively upon on that(Jepperson, 1991). Some studies suggest that the prior social-historical context exert the enduring influence, entrepreneurs draw selectively on the cultural repertoire built trough their socialization and business experiences to guide their economic action (Baron, Hannan, & Burton, 1999; Laurent, 1983; Lubatkin, Lane, Collin, & Very, 2007). Johnson (2007: 119)'s story emphasizes the role of culture toolkit in founding period and hints that the powerful stakeholders in entrepreneurial environment might enhance this imprinting effect. Cultures at national and local level are proved to be very crucial in continuation or dissolution of ties by defining the legitimate network behaviors (Park & Ungson, 1997), newer firms enter the local networks rely on existing scripts and cues about legitimate behavior where imprinting occurs(Marquis, 2003)

Scott's division corresponds to North's division of institution in formal (regulative) and informal (normative, cultural-cognitive) which both connotes the stability and persistence of behavioral patterns. Filling the critical gap in understanding of the imprinting of founding environment, institutional theory could be a promising perspective by examining how founding institutions imprint entrepreneurs, their ventures and social connections and tracing how they respond to the changing institutional conditions and to what extent it reflects the founding institutions (Marquis & Huang, forthcoming). Different from the instrumental logic, the institutional perspective propose the logic of appropriateness and ask "given my

role in this situation, what is expected of me in regards of network behavior?”(Scott, 2008: 68).

3 Research design and method

Purposeful Sampling

Scholars also believe that many substantive issues in entrepreneurship and network evolution studies can only be asked and analyzed through qualitative and inductive methods (Gartner & Birley, 2002; Hoang & Antoncic, 2003b; Jack, 2010). Theory building research using the cases that address “how” and “why” questions in unexplored area could offer the critical response to the competing theories and stimulate new theory that is accurate, interesting and testable for future explorations (Eisenhardt & Graebner, 2007: 25-26). After reviewing the key literature relevant to our theme (Gephart, 2004), we adopted the purposeful sampling strategy for two reasons. First, it provides “a clear criterion or rationale for the selection of participants, or places to observe, or events, that relates to the research questions”(Ezzy, 2002: 74), therefore, it helps us to illuminate and extend the relationships and logic(Eisenhardt & Graebner, 2007: 27) between founding institutions, institutional transition and network evolution. Second, it helps us make the systematic comparisons and facilitate new theoretical insights emerging from the data. Based on our research agenda, we identified following selection criteria.

First, Analytical unit and boundaries are essential for theoretical building and generalization(Eisenhardt, 1989; Pettigrew, 1997). We identified two institutional periods(P1:1991-2001, P2:2002-2009) as time framework and two start-up cohorts as our analytical unit. Second, we identified Shanghai as our field work site to build and extend the theory(Eisenhardt, 1989). Shanghai has experienced the fundamental institutional change and always stands at the forefront of Chinese social-economic transition. The changing roles and patterns of entrepreneurial network (Guthrie, 1998; Keister, 2001; Ren, Au, & Birtch, 2009) can probably indicate the future network evolution in China. Third, since we are interested in how founding institutions affect the initial network configurations and influence the subsequent network trajectories during the massive institutional transition, we included the multiple cases across the

industries. Researches suffer from the limitation of single industry investigation and appeal for extensive cross-industry studies of network evolution(Elfring & Hulsink, 2007; Johnson, 2007: 121). We believe that cross-industry research as a exploratory approach can yield new theoretical insights and release the theorizing potential since industry development is also embedded in institutional transition in transitional economies which are “qualitatively different” from western economies(Newman, 2000: 602). Finally, we recognized the extraneous variations which may obscure the results and limit the theorization (Eisenhardt, 1989). Entrepreneurial age and organizational stage are considered in this study. We selected the respondents who started business between 25-35 years old based on the fact that age is a factor influencing the start-up behaviors(Au & Kwan, 2009: 10; Kessler & Frank, 2009) and might be related to network behaviors. Entrepreneurial or Organizational life stage also correlates with the network evolution (Hite & Hesterly, 2001a; Kim et al., 2006); therefore we only included those firms who have already experienced emergence and growth(at least early growth) in our study.

Data collection

This study was carried out in Shanghai from April 2009 through October 2009. we talked to knowledgeable informants to avoid the bias(Eisenhardt & Graebner, 2007). The first knowledgeable informant works as a consultant in Shanghai Science &Technology Consulting Center, he talked with the author about the industry development in Shanghai and two entrepreneurial start-up cohort’s network practice. The second expert works as a management professor and a practitioner as well; he discussed with the author about this project and advised on the research design.

Our data collection was mainly an interview-driven approach, we conducted 5 pilot interviews to refine and reword our semi-structured interview guideline. The pilot interviews also helped us obtain a grasp on the properties and dimensions emerging from the data and sensitize us to the following interviews. We searched the informants via personal contact and attending the entrepreneurial conferences, we strictly followed the theoretical sampling criteria to screen and select the sample.

Finally, 33 respondents have been identified and interviewed.

The critical component of investigating network evolution is to incorporate the longitudinal perspective and compare the development patterns over time (Hoang & Antoncic, 2003b: 180; Ring & Van De Ven, 1994: 112). Therefore, we employed the retrospectively longitudinal approach (Eisenhardt, 1989) and asked the entrepreneurs to recollect their network stories since start-up. Following the interview strategies (Given, 2008: 584; Kvale, 1996), we began with the general and open-ended questions to elicit the recollection of venturing history and the venturing context (e.g. pre start-up conditions and institutional surroundings). We moved on to more specific details connected to how they managed major entrepreneurial process, such as seeking opportunities, acquiring resource and gaining legitimacy (Elfring & Hulsink, 2007; Le & Nguyen, 2009). All of the respondents referred to the networks during the interview, we therefore followed up the questions to investigate which kind of networks they utilized to achieve these entrepreneurial goals, did they change their network ties when institutional environment changes, why did they change and why not. Finally, we asked them to prioritize the network types which they would like to invest in the future to indicate their propensity of network change or network inertia. Our in-depth semi-structured interviews were typically 90-120 minutes in length, taped and transcribed verbatim with the help of student assistants. Additionally, we collected the archival data, to triangulate the research themes, address the theoretical issues and provide the reliability check (Eisenhardt, 1989; Jick, 1979; Yin, 1994), those data includes company website, business publications, brochures and other materials. Table 2 shows the demography for 33 start-up entrepreneurs split in two cohorts.

Insert Table 2 about here:
Respondent's information

Data analysis

Systematic and constant comparisons (Eisenhardt, 1991: 626; Strauss & Corbin, 1998) and it is profitable for inertia, path dependence/creation studies (Garud, Kumaraswamy, & Karnoe, 2010: 609; Romanelli & Tushman, 1986), therefore we employed the cohort comparative approach as our key advantage to discover the properties and dimensions from the data, extend and develop the theoretical insights. Cohort comparisons breaks down into two dimensions (see table 3): intra-cohort longitudinal comparison and inter-cohort comparison. Start-up cohort membership is used to “index the unique historical period in which a group’s common experiences are embedded”(Alwin & McCammon, 2003: 26), it has been suggested to cause the intra-cohort homogeneity and inter-cohort heterogeneity(Mannheim, 1928/1993; Ryder, 1965). The *intra-cohort longitudinal comparison* attempts to examine whether (and how) start-up Cohort A have evolved their networks from P1 to P2. The *inter-cohort comparison* casts light on the network distinctions between Cohort A and Cohort B in contemporary institutional P2.

Insert Table 3 about here:

Start-up cohorts comparisons

Our data analysis is based on Strauss and Corbin’s coding procedures (1998: 73-143) and it can be handled at two dimensions: operating principal and coding process. The first dimension consists of asking questions and marking comparisons. We asked both sensitizing questions (e.g.: who has changed their network, who has not? When, how and under which conditions they are imprinted or change their network ties?) and theoretical questions(e.g.: under which conditions either network inertia or network change occur during the institutional transition? What are the relationships of institutional imprinting to network inertia and network change? How can we relate the different scenarios of network evolution for two cohorts at the property and dimensional level?). Then we make comparison to stimulate the thinking about the emerging properties and dimensions of institutional imprinting to direct to theoretical situation. We employed the computer-aided qualitative data analysis

(Cohort AQDA) techniques to remedy the analytical flaw in management studies (Gephart Jr & P., 2004: 459; Wolfe, Gephart, & Johnson, 1993) and systematically analyzed the data via Atlas.ti 5.2 software.

The first step is open coding and conceptualization. We began the coding procedure by open coding, identified and classified the categories related to respondents' narration of institutional environment, the use of network ties and scenarios of network evolution. This step involves conceptualizing, defining categories and developing them along their properties and dimensions. For example, we categorized the network into three types: political network, market network and social-cultural network. We traced the network evolution and categorized it into two scenarios: network inertia and network change. We further asked and identified the reasons for network use and network evolution: regulative pressure, normative pressure for inertia/change, cognitive pressure for inertia/change. We also looked in to the existing literature to reflect upon and enrich our categorization(Pratt & Rosa, 2003). The second step is axial coding and relating categories. We conducted the axial coding to identify the conditional context within which each categories is situated, we reassembled the fractured data during the open coding and related the categories of network types, network evolution and institutional environment. The third step is to integrate and build the theory. After categories and relationship are identified and organized around the central explanatory concept "institutional imprinting", we revisited the data to check the internal logic and consistence. Upon this step, we stood back and asked ourselves how much of the relationship among the categories built into the theoretical scheme.

Table 4 gives an example of coding categories and our interpretations; figure 1 demonstrates the process of our qualitative analysis from open coding to axial coding and finally reaches theory building.

Insert Table 4 about here:

Coding categories and interpretations

Insert Figure 1 about here:

Coding procedure and emerging theory

4 Results

Cohort A

(1) Strong network dependence and limited network opportunities

Start-ups' reports reconciled with Nee and Ingram's notion(1998: 20) that their networks were embedded in specific institutional conditions which provide the choice-within-constraints structure. This structure shapes start-up network availability and propensity which constructs a major step of imprinting.

First, weak institutional support and liability of newness created start-ups' strong dependence on networks. Startup firms share the liability of newness that all new firms have(Stinchcombe, 1965), however, the threat is even aggravated when they operate the business in institutional environment that are volatile and unpredictable(Ahlstrom & Bruton, 2006: 300). Markets for goods and capital are also in its very nascent stage(Bruton & Ahlstrom, 2003) which make the private entrepreneurial behavior and market exchanges costly and uncertain(Nee, 1992). Surprisingly, many cohort A respondents share the general feelings that "it was much better than before to start-up business", It sounds reasonable when they compared with previous period(1978-1991) which was characterized by the hidden development of private-owned enterprises (POEs). However, the relatively favorable conditions didn't guarantee the supportive regulative institutions. Respondents complained that "policies were 'unstable' und 'fluctuating', there were "discriminations against private enterprise", "difficulties to get the bank load" and "market entering barriers". The institutional uncertainty (lack of supportive formal structures and stable rules) and the market imperfection (the legacy redistributive mechanism from the state socialism)

lead start-up entrepreneurs great dependent on guanxi network as a substitution and gain access to valuable resource and opportunities(Nee, 1989; Xin & Pearce, 1996).

Our second argument extends the first point and suggests that network opportunities are limited due to the limited resource motility in the market. For example, the control of land, capital, raw material, licensing for business entry and distribution channels are still largely controlled by government, the only way for star-up to conquer the threat is to cultivate the political networks to access the valuable resources and opportunities(Child & Yuan, 1996; Fisman, 2001; Park & Luo, 2001; Peng, 2003). Limited market resource also triggers the entrepreneurs' dependence on other business connections to access the scarce resources and opportunities (Boisot & Child, 1996; Luo, 2007; Xin & Pearce, 1996).

(2) The initial network configuration

Network type and size. More than half of Cohort A respondents stated that political networks was particular important to their new business venturing at P1. They had to spend much effort in cultivating the personal connections and maintaining good relationship with government officials, party cadres to gain access to materials and physical resource(Cohort A-MM, CCL.), financial capital(Cohort A-CCL, WJS, MM), wining contracts and obtaining deals(Cohort A-CFB, HDS, FPX). Start-ups also established market networks with suppliers, buyers from other firms(Oliver, 1990) For example, buyer relationships with reliable payment relieved their liquidity problem and capital deficiency. Good networks with suppliers guarantee quality materials and service, and reduced the purchasing cost (DHC, LZQ, and YJ). Sub-contracting relationships with upstream firms helped to open the market channels and bypassed the regulations which banned their direct business (WM, FC, DHC, FPX).

Network strength. Our data show that Cohort A's networks can be characterized as interpersonal, strong ties with high particularistic trust and commitment(Tan, Yang, & Veliyath, 2009). In P1, when network dependence was high and network opportunity

was limited, Cohort A members have to establish reliable relationships with powerful actors in government and market. Many respondents frequently describe how their friends in government help them get things done, and they wouldn't differentiate business partners from friends. They realized that these relationships requires emotional closeness, repeated interaction and long-term duration(Granovetter, 1993; Marsden & Campbell, 1984). However, those strong ties provided them the timely access to valuable information, resource, opportunities, reduced the cost and uncertainly during the transition.

Network strategic orientation. Confronted with institutional turbulence and uncertainty during the transition, entrepreneurs are not clear about their strategic orientation(Park & Luo, 2001), their networks involve instrumental dimension, but lacks of strategic management. From the initial stage of their business, A majority of the dyadic ties stem from relationships with social, family, or historically long-held sources(Larson & Starr, 1993), even their connections with government officials and other business involve highly expressive interactions. Their network involves more expressive and instrumental interaction rather than strategic network formation.

(3) Network inertia: the unfolding of early institutional imprinting

Network type, size and diversity. As their firms continued to develop in P2, entrepreneurs demonstrate two tendencies: 1) stick to their old ties; 2) expand their networks with less diversity. The mechanism for the first tendency is that during the P1, less network opportunity, attach to key players. Once they benefit from these ties, they tend to maintain and consolidate political network and market network.

Many respondents wouldn't like to make great efforts to expand their network. They seem satisfying with their existing ties. Some proactive respondents utilized their exiting ties to ask them to introduce new customers new suppliers, this may create homogeneous network. Batjargal (2006) found that in Russia, the greater the initial network size and diversity, the less likely entrepreneurs expand and enrich them because of relational inertia. We found that the small sized and less diversified

networks also could lead to inertia when the network opportunity is limited in China's institutional condition.

Network strength. Institutional transitional perspective and firm life cycle perspective both predict that strong-tie-based networks will be transformed to weak-tie-based networks. Some studies suggest that only informal networks cultivated by entrepreneurs and managers can cope with the uncertainty during institutional transition (Boisot & Child, 1996; Peng & Heath, 1996; Xin & Pearce, 1996). We examined the strength of Cohort A's ties when their firm develop in P2 and discovered that respondents who have developed their connections into strong and informal ties are reluctant to switch to weak and formal ties. Cohort A-CFB described how he developed and consolidated his strong connections with government officials:

We are very close at that period, we are even closer now. Because we have emotional exchanges, and our guanxi is very good. Many things have been mixed together, we stayed in contact very frequently. ...When I do business with other people (businessmen), it has two dimensions, the first one is emotional exchange, don't let it be light as water after the deal, you still need to keep in contact.

CFB is not along, WJS, ZRQ, WJY, DHC, FPX who also established the informal political networks demonstrate the persistence to those ties.

Network strategic orientation. Most Cohort A respondents didn't evolve their networks to more strategic and calculative networks. The deep-rooted philosophy underling guanxi network is its emphasis on homogeneous and integration, improving quality of the extant ties and maintaining long-term interaction while contains fewer structural holes. Strategic network management suggest that as firms grow, entrepreneurs should intentionally manage their networks, for example, add more arm's-length ties and bridge structural holes to get more diverse resources and develop more advantageous position(Hite & Hesterly, 2001a). However, the pre-existing ties still seems satisfying.

(4) The power of informal institutional pressure during the transition

Why Cohort A members clearly demonstrate the network inertia even their firms became more matured during the P2? Digging into the data, we have identified two major sources of network inertia. The first source arises from the embedding characteristics of Chinese business culture. In line with account of culturalist perspective, Chinese business networks are entrenched in cultural norms under which our respondents feel pressure to commit to the existing ties with reciprocity, moral obligation and avoid the deviation from the established norms of network behavior, especially when they benefited from those old contacts during the P1(Luo, 2007).

Former studies stressed the increasing normative and cognitive pressure during the transition to engage in market-based transactions(Peng, 2003) while neglecting the normative and cognitive pressure from the Chinese culture to persist the old ties. Obligation, dynamic reciprocity, long term orientation are normative ways of forming the personal relations in China which pose the pressure for entrepreneur to maintain the contacts (Chen, Chen, & Xin, 2004; Chen & Chen, 2004). Since Chinese personal network (guanxi) practice is deeply rooted in social rules and everyday business life which blends trust and affections, those cognitive institutions also impose the demand for consolidating the relationships(Chen & Chen, 2004; Luo, 2007).

The second source derives from “relational overembeddedness” (Uzzi, 1996)that limits the capability to change. For Nascent start-ups, relationally embedded ties provided emerging firms with critical strategic opportunities” that might not otherwise be available and accessible or affordable in P1. The old dyadic ties offer some constancy and predictability in times of turbulent institutional transition, Besides the norms and cultural governing the transaction, the existing network ties themselves function as informal constraints(Peng, 2003). Those long-lasting personal relationships can also become a source of network inertia resistant to network partner change (cf. Krackhardt, 1994)

Insert Table 5 about here:

Cohort B

(1) Mild network dependence and open network opportunities

The weak formal institutional support during P1 aggravated the threat of liability of newness and induced strong demand for Cohort A to engage in pursuing and building strong networks which create strong tendency of network inertia. Peng (2003) suggested that younger start-up cohorts still need the networks regardless of institutional advancement. Our analysis of Cohort B' network in P2 partially support the idea that liability of newness necessitates the network reliance, however, their stories to a great extent suggest a contingent relationship between the liability of newness and current institutional environment which creates a mild network dependence and provides a open and accessible network opportunity structure.

Resources controlled or distributed by governments are gradually diminishing(Pistor, Raiser, & Gelfer, 2000), however nascent entrepreneurs still need networks to access the resource and opportunity, legitimacy is more needed for their business. Compared with Cohort B, Cohort A mainly involved in emerging industries such as private equity, P2P, Membership service etc where they lack of legitimacy(Aldrich & Fiol, 1994). their need for cognitive and sociopolitical legitimacy is much stronger(Aldrich & Fiol, 1994), as Cohort B-WB, Cohort B-YX, XXT, ZAM, JXJ sketched that their firm needs government support to allow and encourage their new product diffusion, new business model technology innovation, Cohort B-HDT, DHY, QCH, YMP ,YYB, WY also point out they need to diffuse their product and service in to larger community and business related audience to gain familiarity, develop trust and reputation. New institutional environment provides more open, diverse and accessible *network opportunities* to realize their network demand which distinguishes the Cohort B from Cohort A from their initial venturing environment. Governments came to support the new start-up firms.

Network type, size and diversity. First, compared to Cohort A, Cohort B

established less political networks, for those who still need; their ties tend to be formal and weak. Social political and cognitive legitimacy lead to formal network. Second, because of more opportunity and resources, they tend to explore more arms-length and diverse market networks.

(2) The shift of informal institutional pressure

Studies on marketization, globalization, and norm diffusion ask a central question: do those processes cause institutional convergence and how domestic entrepreneurs respond to those changes (Carney, 2005; Wilson, 2008). The informal institutions (Zukin & DiMaggio, 1990) and relational embeddedness create the path for network inertia for Cohort A and make them less adaptive to the new institutional environment. Our data show that unlike their predecessors, Cohort B members hardly remain untouched.

Most of the Cohort B respondents narrated about their feelings of pressure from the market competition and the changing landscape of Shanghai business culture when it becomes a global player. Those changes have two meanings for Cohort B: first, most of the respondents narrated their feelings of pressure from the market competition and changing landscape of Shanghai business culture. Those changes have two meanings for Cohort A: first, younger cohort felt the necessities to build and enhance their capabilities and strength. Second, with the acceleration of marketization and globalization, through normative and cultural-cognitive system, new values, morals and scripts in relational system have been created, coded and diffused among young actors which overthrow the traditional beliefs, customs and practice in business field(check (Scott, 2008: 185)). Even under the pressure for market competition, several younger start-ups prefer that business atmosphere, as Cohort B-XXT stated:

Obviously, Shanghai has become the center, business rules become more and more international, you have to flow the rules of game. In establishing the network, own capabilities are very important. I try to be selective, because resource matching

is also very important, time and energy are limited, you need to find the right partners.

This shape contrast of network formation and governance between two cohorts provokes the thinking of the influence of Chinese traditional business systems. We further contest this influence on Cohort A and asked how they are confronted with two competing informal institutional pressures and make their choice, as Cohort B-XMH said:

The old generations did so out of its necessity. For them, business is making friends. Everything is blurred and inexplicit. For us, everything is changing so fast. You need to be flexible and selective. You need to know how to separate personal and business matters even though you are friends in business, try to not involve personal affections.

Network strength. Our data indicate that younger cohort began to establish more formal and weak ties. First, the emergence of new industries and business urge the young start-ups to gain cognitive and social-political legitimacy, which lead to formal and weak networks with government and community(Aldrich & Fiol, 1994). Second, the open and accessible network opportunities make it much easier to form diverse and weak ties to explore new resource and opportunities (Burt, 1992; Rowley, Behrens, & Krackhardt, 2000), facilitate their growth(Hite & Hesterly, 2001b). Third, for younger cohort, weak ties are less costly to maintain, requiring less time, energy, and money(Hansen, 1999).

Network strategic orientation. Forming the strategic alliance has been attribute to the strategic response to rapid environmental changes (Yasuda, 2005). Cohort B demonstrates a strong strategic orientation in networking. First, their network formation can be described as alliance partner selection that is, being more selective and strategic. They tend to establish the connection with prominent and powerful players to gain competitive advantages(Dacin, Oliver, & Roy, 2007: 171). For example, ZQ first strategically chose an alliance partner, WB initiated the network with foreign banks, YX strategically positioned himself in high-tech industry. Once their have established the strategic alliance with powerful players, they try to

relational legitimacy to attract more potential ties(Dacin et al., 2007). Second, Cohort B' network are shown more instrumental elements. The new norms and values stressing the self capabilities, relational legitimacy have been coded and diffused among younger cohort, contrast to the Cohort A, they tend to devaluate the strong affection and ties towards the dyadic ties. In addition, cultivating strong ties is very costly, they prefer spending time strengthening their capability and looking for diverse opportunities.

To sum up, Cohort B start-ups emphasized the role of network to conquer the liabilities, however, their reliance on network are moderated by new institutional environment with more globalized business culture in Shanghai, they are more loosely imprinted than Cohort A. More formal organizational network requires less personal obligations and reciprocity. Cohort B are also more open to different networks and leverage the resource among the ties, industry network and intra-organizational network(teaming-up and team building) are rising, those networks are developed to bridge the unconnected ties which lead to the network portfolio and network innovation .

5 Theoretical implications

The theory emerging from our data can be summarized in figure 2. Using those observations, we now propose following propositions as theoretical implications and facilitate for future testing.

Insert Figure 2 about here:
Emerging Theory: How Institutions Imprint on Networks

The power of founding institutions

Founded in different institutional period, entrepreneurial start-ups' (1) network

dependence and (2) network opportunities also vary accordingly, and:

Proposition 1a: Founded in early institutional period, older start-up cohort' network dependence is high, founded in later institutional period, younger start-up cohort' network dependence is mild.

Proposition 1b: Founded in early institutional period, older start-up cohort' network opportunity is limited, founded in later institutional period, younger start-up cohorts' network opportunity is more open and accessible.

Changing pressures of informal institutions

Proposition 2a: Older start-up cohort is influenced by Chinese traditional business culture (normative and cultural cognitive pillar) which emphasize on tie maintenance, affection, and this influence is likely to continue in current institutional period.

Proposition 2b: Younger start-up cohort is more likely exposed to new business culture which emphasize on relational legitimacy and self-capabilities.

Imprinting effect of founding institutions

Proposition 3a: Older start-up cohort is more likely to demonstrate network inertia in four dimensions (1) network type, (2) network size (3) weak tie (4) less strategic.

Proposition 4a: Younger start-up cohort is more likely to demonstrate (1) diverse network types (2) weak ties (3) strategic orientation

Institutional change and industrial co-evolution

Industries develop and co-evolve with the institutional change, new institutional environment give rise to emerging industries, and shape the new norms and practice of network behavior. Starting-up in emerging industries will push entrepreneurs adapt their network configurations, thus we expect that:

Proposition 5a: Older start-up cohort's network inertia is likely to be mitigated when they are involved in emerging and new industries.

Proposition 5b: Younger start-up cohort's network adaptation is likely to be accelerated when they are involved in emerging and new industries.

Network change through the succession of start-up cohorts

We expect the overall network change is more likely come from the younger cohorts, the replacement of entrepreneurial generations in China. Early start-up cohort might change their networks to adapt to the new institutional environment in certain dimensions, however, younger cohort are more likely to generally update the network configurations, thus

Proposition 6: Network change is more likely to happen through the succession of younger start-up cohorts.

6 Conclusion and discussions

Drawing on two contrasting perspectives on network evolution: network inertia and network change, we use the cohort comparative study to examine how two start-up cohorts differentiate themselves from each other in their network configurations. Our study demonstrates that old cohort is imprinted by the early institutional conditions and they involve network inertia and limited network adaptation during the transition. Younger cohort is more adaptive to the changing institutional environment and network configuration is distinctive from the old cohort. Our core argument is that the overall network change is more likely to happen through the succession of younger start-up cohorts.

Contributions. This study contributes to inertia phenomenon by investigating the underlying mechanism of network inertia and network change from the institutional perspective. Three pillars and their combinations during the different institutional period are used to explain the network inertia and its underlying imprinting mechanism. We develop the propositions to facilitate the future exploration to understand during the institutional transition, which factors contributing to the network imprinting, and which factors lead to the network change, and who are more likely to demonstrate network inertia and who are more likely to adapt to the new institutional environment and signal the shift of network propensity and network

behaviors in the future.

Second, to our knowledge, this is the first paper using the cohort comparative approach systematically analyzing the qualitative data and generating the inertia theory. With the intra-cohort and inter-cohort comparative strategies, we have identified who are imprinted and who have changed their networks, and contributed to the discussion of the mechanisms of how institutional transition influences the entrepreneurial network behaviors.

Limitations and future explorations. We have traced the network evolution of Cohort A with the retrospective narration, however, since Cohort B started their business in contemporary institutional environment, it is hard to trace their network trajectories over institutional change; we only asked them to picture their network dynamics over a short period since their venture creation and examined their propensity of future network investment. Parts of our explanations and perditions (on Cohort B network evolution) are based on this data source.

The second major limitation of this study is that we were not able to isolate the separate effects of the age-period-cohort. Understanding the strategic change from the evolutionary-historical perspective touches upon the issue of disentangling the age-period-cohorts effects (Aldrich & Ruef, 2006: 164). We need quantitative methods to further study their effect on network evolution.

Further study can also look into how different stat-up cohorts interact with each other? How entrepreneurial cohorts' network norms and values are created, diffused and retained (Aldrich & Ruef, 2006; Snell & Tseng, 2002: 16)? Does younger cohort influence the older cohort's network performance or vice versa.

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Table 1 Network change and network inertia: theories and dimensions

	Network change	Network inertia
Underlying theories and arguments	<p>Resource-dependence theory: the attributes of external environments (uncertainty, munificence) influence the patterns of network changes (Koka et al., 2006)</p> <p>Network theory: network learning and imitation. Strong ties promote adaptation to environmental change (Kraatz, 1998 #8506)</p> <p>Entrepreneurial stage: social, business, and strategic networks.</p>	<p>Organizational imprinting theory (Stinchcombe), 1965 #1153), structural inertia theory of organizational ecology (Hannan & Freeman, 1984, 1989; Hannan, Po'los, & Carroll, 2002a,b,c).</p> <p>New institutional theory: actors conform to rules or beliefs to gain legitimacy from other social actors (Dimaggio, 1983 #2646). Networks are institutionalized and become a source of inertia (Kim, 2006 #4125) .</p> <p>Relational embeddedness: Network theory: structural homophily principle, Path dependency effect of the initial partners on subsequent networks (Milanov & Fernhaber, 2009)</p>
Network size and diversity	<p>The more competitive the environment, the more likely an organization is to form new and diverse networks who have marketing and technological capabilities (Khanna, 1998 #8508).</p> <p>With Institutional transition, network size will decline (Peng, 2003 (Guthrie, 1998 #988)) establish more diverse set of other organizations in order to explore new opportunities (Peng & Zhou, 2005) exploit and explore (see Peng, 2005).</p> <p>Entrepreneurial Stage: firms add more diverse networks to met the increased scope of resource need (Hite & Hesterly, 2001b)</p>	<p>Institutional environment: The stronger the pressure on an organization to conform to an institutional environment, the less likely it is to change its network ties in ways that violate the institutional environment.</p> <p>Internal constraints: firms resistance to changing and dissolving the inter-organizational dyadic ties due to internal constraints: organization's size, age and status; tie's size, duration multiplexity etc., all have a possitive effect on network inertia (Kim et al., 2006)</p>
Network strength	<p>Strong ties among strategic partners are good when environmental uncertainty is low, weak ties may be best when environmental uncertainty is high. (Rowley et al., 2000)</p> <p>As institutional transition unfold, strong-tie-based networks (uncertain institutional environment) are transformed into weak-ties-based networks (Peng, 2005 #5767).</p> <p>Stage: from primarily socially embedded (strong) ties to a balance of embedded and arm's-length (weak) relations; (Hite, 2001 #2742)</p>	<p>shared identity and norms, cultural values within the strong and long-lasting personal relationships can also lead to network inertia, thus resistant to changing network into weak tie (Krackhardt, 1994)</p> <p>strong ties reduces their flexibility and can lead to interorganizational inertia (Mitchell and Singh, 1996).</p>

Network strategic orientation

from emergence to early growth: identity-based to more calculative networks : from networks that emphasize cohesion to those that exploit structural holes; and (3) from a more path-dependent to a more intentionally managed network (Hite & Hesterly, 2001b).

Facing environmental turbulence and uncertainty in China's transition economy, firms are often not sure what strategic direction to follow (Park and Luo, 2001). DiMaggio and Powell (1983) note that firms are likely to mimic the behavior of other organizations.

Table 2 Respondents information

Cohort A	Start-up year	Age	Industry and business	Education	Cohort B	Start-up year	Age	Industry and business	Education
WJS	1992	47	safety manufacturing	Bachelor	ZQ	2002	35	Real estate	MBA
MM	1992	50	Home Utilities manufacturing and installation	Bachelor	XMH	2002	35	Health-care products sell	Bachelor
WM	1993	45	logistics	Junior high school	NXD	2003	32	Machine building	Bachelor
ZRQ	1994	40	Electronic Equipment production	Bachelor	WB	2003	39	Financial outsourcing services	Bachelor
WJY	1995	39	Stone export(1995), venture capital(1999)	EMBA	YBQ	2003	32	Furniture sell	Junior college
DHC	1996	39	IT, Multimedia devices sell	Bachelor	ZD	2003	42	Manufacturing	Bachelor
CCL	1995	42	Printing	Junior high school	YX	2004	29	TMT	Bachelor
HDS	1996	47	Advertisement	Bachelor	ZAM	2005	32	Private equity	Master
LXZ	2000	34	Electronic communication design and sell	Bachelor	YMP	2005	26	Smart kids Tutoring	MBA
FPX	1997	47	Communication equipment design and sell	Bachelor	HDT	2005	37	Marriage consulting	MBA
CFB	1997	40	Electronic device selling and installation	Senior high school	QCH	2006	29	Business Management Software design and sell	MBA
YJ	1999	44	Calling center, service outsourcing	Bachelor and EMBA	YYB	2006	34	Catering management	Bachelor
LZQ	1995	42	Law agency	Master	WY	2006	30	Voice training	Bachelor
FC	1999	45	Textile production	Master	YZD	2007	33	Private equity	Bachelor
XJF	2000	33	Machine building	Bachelor and AMP	JXJ	2007	25	IT	Bachelor
CL	1997	41	Electrical machinery and Lubricants	Bachelor	XXT	2007	37	Taxation Consulting & Training	MBA
					DHY	2008	32	IT, MBA credit system establishment	MBA

Table 3 Start-up cohort comparisons

Institutional period	Cohort A	Cohort B
P1: 1992-2001	Network configurations?	
P2: 2002-2009	Network configurations?	Network configurations?

Table 4 Coding categories and interpretations

Conceptualization of coding	Examples	Interpretation
<p>Institutions these are feelings of external institutional environment which demands them to respond to these conditions. How start-ups respond depends on the source and context of the pressures.</p>	<p>Cohort A-HDS: After long time suppression, it was a good time to start up your own business. Some people complained about the environment, I think the environment is fair for everybody, though it was not perfect. You do it in an American way in America, you do it in an Chinese way when you are in China. Cohort B-YX: When I look back to the past, I think it was a right moment to start up. from 2003, many domestic internet and game companies went public. My venturing is on the surging period. Venture capital industry is emerging and restless. We got our first investment....they came to my university and invest, and some other investors were also contacting us. The government also pay a close attention to the development of high-tech companies, they often come to visit my company.</p>	<p>Here HDS is describing his feelings of institutional environment during P1. He feels that the start-up environment was better but not perfect. But what matters to him is how to act in a appropriate way given the weak institutional support. Here YX is demonstrating that he benefits from the surging venturing capital industry. When he had a project on TWT and applied to VC, they came to him initially. Shanghai government also gave much support and set the firm as a high-tech model for others companies to follow.</p>
<p>Founding institutions</p>	<p>Cohort A-HDS: Because of the state-owned enterprise reform, enterprises need to be separated itself from administration. But the approval process was so complicated.And at that moment, there was no possibility to have the bank loan. Cohort B-YX: The government encourages the innovation, however the company law doesn't provide much protection for investors, it discourage the risk investment, without this investment, how many innovative companies will initiate their venturing?</p>	<p>HDS is describing that there was no specific policies and regulations to support starting up business. Bank system is still under state control and banks discriminate against the private business. So the overall regulative institution was very weak at P1. YX is describing that the government is generally supportive, but the policies has not been consummated to facilitate the innovation.</p>
<p>Normative these are the feelings and perceptions of delineate roles and expected actions. This pressure introduces a prescriptive, evaluative and obligatory dimension into their network behaviors</p>	<p>Cohort A-HDS: After you did business with them, it became a friendship. doing business is just making a call with them. They will assist you in looking for customers. ...Once we have established the relationship, we pay a lot attention to the warmth and coldness. Doing business is like making friends, its a long term investment, its like your brand, you need to accumulate and build a good credit①. Cohort B-YX: You first need to come up with a good project and show your ability and potential to carry it out. They (VC) will promote your business and arrange road show. They help you find the intermediaries, such as financial consultant. ...The new economy is characterized as win-win cooperation. We don't have a very close attachment, but if you come to me for advice or help, I am willing to help you. The opposite is also true③.</p>	<p>HDS is demonstrating that doing business is making friends. His business and customers typically came from his old ties. So he values a lot of his credit and care about a warm and long lasting old relationship. YX is explaining that in TWT industry, stakeholders are growing together. So the win-win cooperation has become a common norm for actors. He has a weak connections with others, but he is very open to different opportunities and new relationship.</p>

Social cultural
Accepted beliefs and values that are imposed on, internalized and shared by actors. This pressure draws extensively on the importance of society's culture

Cohort A-HDS: In Chinese context, doing business is mainly relying on guanxi. As a owner of the firm, if you can't develop your guanxi, it proves that you are incapable.
Cohort B-YX: You see that it is very common that, those successful start-ups, they are masters of networking, you have to jump out of the circle, accumulate a array of people from diverse background but very cooperative, Common background, share common ideas are very important, I think you can be selective and active.

For HDS, guanxi practice is very prevalent in P1, and owning guanxi became a signal of incapability. He took guanxi network as for granted, otherwise he became disadvantaged.
YX is telling that network is very important, but homophily is very important to do business together. Given so much dynamics and interaction in business, he suggest being selective in networking.

Institutional change
The difference in form, quality, or state over time in an institution. It is determined by perceptions of respondents of the noticeable difference over time on a set of above-mentioned dimensions: regulative, normative and cultural-cognitive

Cohort A-HDS: I feel more support from the government and more and more sense of serving.The market is expanding but the competition is intensifying, my profit is declining.
Inter: Do you feel that you need to find more business partners to expand your business?
Cohort A-HDS: Not necessary, now I am still doing business with old customers, you just need a call.
Inter: Do you feel any external pressures to change your relationship with them?
Cohort A-HDS: I feel very comfortable doing business with them. Nowadays, young people separate business from friends very clearly, they are too market oriented⑥.

HDS is telling that improvement of the government's attitude is accompanied with the intensifying market competition. His market is declining, however he still enjoy doing business with old partners. He seems remain out of the merciless market competition and enjoy the warm partnership. The normative and cultural-cognitive pressure for maintaining the relationship still hold during the market transition.

Network

Network dependence
To which extend, respondents rely on network to accomplish the entrepreneurial goals. The degree of network dependence is embedded in institutional context, thus the demand for network and the strength of connection also varies.

Cohort A-HDS: I mainly did advertisements for urban construction bureau, I knew some people from the government, so when I started up my own business, they gave me the projects. They didn't assign the business to anybody. ...Those project were very big and they consume main proportion of my business.
Cohort B-YX: I don't have a close relationship with government officials. But we need more favorable policy support and allow us to engage the technological innovation. When the government leaders came to visit our company I felt that I am encouraged.With this financial support from VC, we have accumulated the customers and reputation. From 2006, our technology is more matured, I can find the content provider and negotiate with them.

In different institutional period, entrepreneur are confronted with different challenged. In P1, the resource and opportunities were largely controlled by the government and its agencies. HDS is telling that he had good connection with government and much rely on that to develop the business.
For YX, he doesn't solely rely on any single powerful player. He is proud of gaining the legitimacy from the government, and growing up with financial backup.

Network opportunity
It describes the extent to which these opportunities can be realised and added to the value creation. It has two dimensions, network openness and network accessibility

Cohort A-HDS: You need cultivate good relationship with government officials. It's not about dirty business. They can provide the reliable and timely information.I categorize them into to types: friends and the people they can trust through the work. However, both takes time and you know I used to work with them for many years.
Cohort B-YX: In internet industry, actually everyone has more or less contact with each other. We know that in new economy, only cooperation can create the opportunities. You come to me and I come to you. So I think in IT industry, you can find everyone by three to four degrees④.

For HDS, political network brings a lot advantages, however accessing to this network takes time. He is describing how close the informal political network is.
YX is describing in IT industry, cooperation becomes very common, accessing to the network becomes not so closed compared to HDS.

Network types
Based on the nature and exchange content of dyadic ties, we divide networks into three categories: political network, market network and social-cultural network. We also consider the formality(formal and informal) and strength(weak and strong) of the ties

Cohort A-HDS: see ① and ②

Cohort B-YX: ③ ④ ⑤

HDS is reporting that he is using political network and market network, both informal and strong. These characteristics imply the relational embeddedness and network inertia.
YX is reporting that he is using formal political network and market network. He seems to have strong ties with VC and remain diverse weak ties with other market players.

Institutional imprinting on network

Network inertia within cohort
cross time Start-up stick to old ties

Cohort A-HDS: ⑥

Although the institutional environment, HDS didn't feel the pressure to dissolve his old ties or adapt his network. Benefited from those ties with strong political network and market networks in P1, he still enjoys the repeated interaction with old ties.

Network differentiations across cohorts

Cohort B-YX: You must learn how to find your network. You need to have a group of people from diverse background and being cooperative. You must deal with different people, your friends and relatives could introduce new people, if they are relevant to my business, I am very willing to initiate the connection. Also see ④.

Comparing HDS and YX, now we can see that they started up their business in different institutional periods, three types of institutions give rise to different network dependence, opportunity and types. The clear differentiations between their networks demonstrate that institutions play a very important role in imprinting start-up cohorts' initial networks. For HDS, we can identify the network inertia by institutional imprinting. For YX, we are very curious to know how they evolve their networks in the subsequent period.

Figure 1 Coding procedure and emerging theory

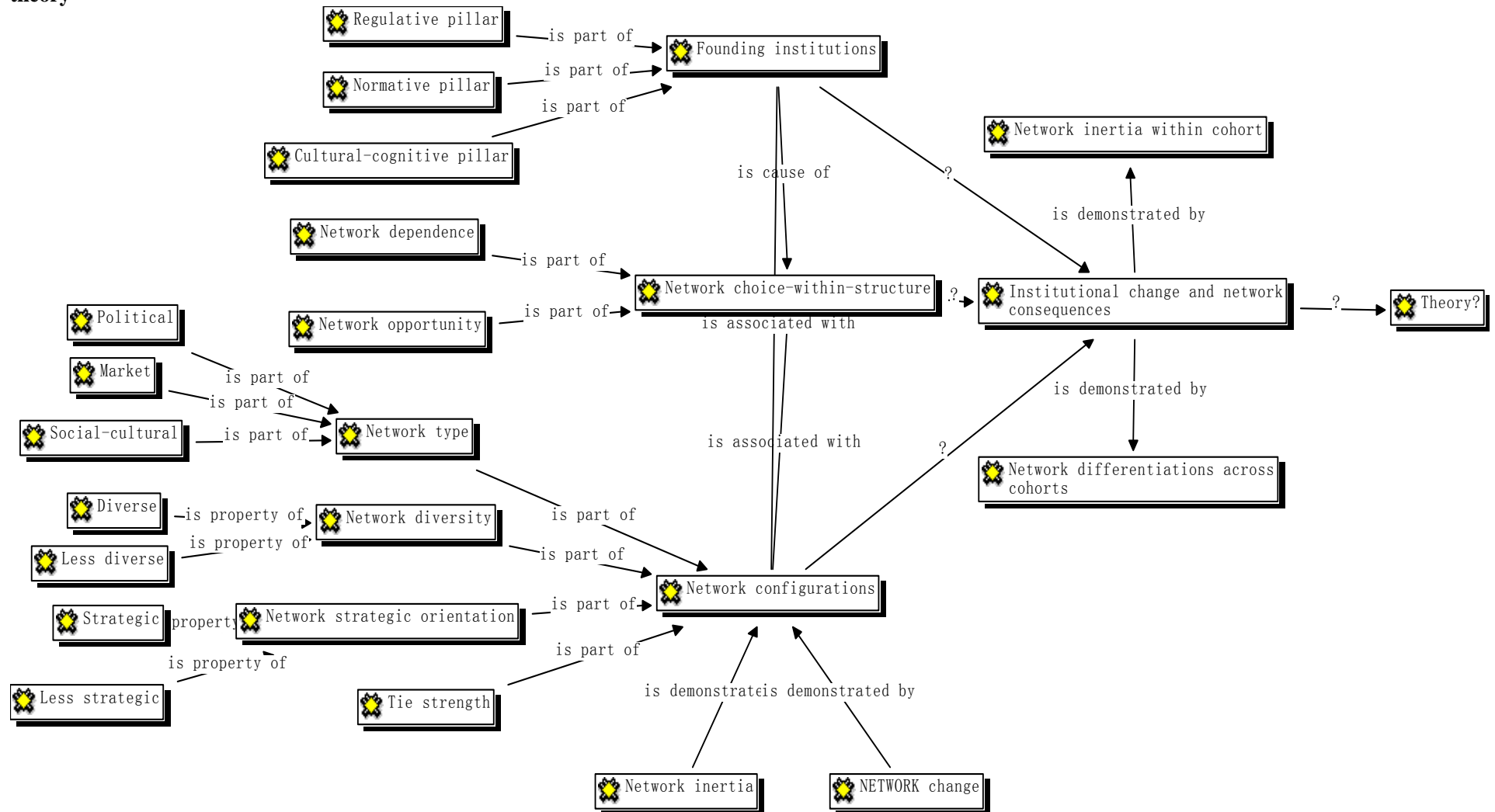


Table 5 Institutional Transition and Pressures: Two Cohorts Compared

Institution: three pillars	Intensity	
	P1:1992-2001)	P2: 2002-2009
Regulative pressure		
Cohort A	weak	moderate
Cohort B		moderate
Normative pressure from traditional Social-economic culture		
Cohort A	strong	lasting or moderate
Cohort B		weak
Normative pressure from globalization and marketlization		
Cohort A	weak	moderate
Cohort B		strong
Cognitive pressure from traditional Social-economic culture		
Cohort A	strong	lasting or moderate
Cohort B		weak
Cognitive pressure from globalization and marketlization		
Cohort A	strong	lasting or moderate
Cohort B		strong

Figure 2 Emerging Theory: How Institutions Imprint on Networks

