Tie Strength and Entrepreneurial Resource Acquisition of the Online Stores: The Moderating Role of C2C Industrial Life Cycle

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Abstract

In recent years, the emerging online entrepreneurship field has provided research opportunities to test whether existing theories can explain the value creation mechanism in the new online context. The impact of tie strength on resource acquisition of the online stores is moderated by the early stages of the Chinese C2C industrial life cycle. Based on a survey with 178 respondents, the empirical results indicate: (1) for online stores being in business for 3 to 8 years, which means they entered into the C2C market at the introduction stage of the industrial life cycle, the main resource acquisition channel at the start-up stage was commercial weak ties; (2) for online stores being in business for 1 to 3 years, which means they entered into the C2C market at the growth stage of the industrial life cycle, the main resource acquisition channel at the start-up stage was strong ties; (3) for online stores being in business less than 1 year, which means they entered into the C2C market at the mature stage of the industrial life cycle, the main resource acquisition channel at the start-up stage was weak ties (including experiential weak ties and commercial weak ties). The paper concludes with a discussion of its limitations and future outlook.

Keywords: Strong ties; Weak ties; Resource acquisition; Industrial life cycle; Online stores

1. Introduction

In China, ever since the Internet was introduced in 1994, the development of Internet technology has provided tremendous potential for commercial opportunities and, ultimately, the business sector of online entrepreneurship emerged. In 2010, e-business entrepreneurial activities accounted for 8.1% of total GDP, and, stimulated by a 4 trillion RMB Chinese government investment aimed at increasing domestic demand, the direct and indirect employment opportunities provided by online entrepreneurship accounted for half of the total job opportunities. The industrial network attracted by B2C and C2C online stores covered every node in the service economy. The number of individual online stores operating in a C2C environment has surpassed 13 million. These stores generated annual output of over 1,000 billion RMB and attracted over 200 million online shoppers in 2012, thereby becoming a pillar of growth in the Chinese economic environment of the post-financial crisis era. The emerging online entrepreneurship field has provided research opportunities to test whether existing theories can explain the value creation mechanism in the new online context. C2C online stores, also known as, individual online stores have obvious characteristics of liability of newness (Stinchcombe, 1965) and significant resource constraints. Research shows that 87.1% of individual online stores in China had entrepreneurial capital of less than 50,000 RMB (Wang Kan, 2011), and entrepreneurial capital of many of these stores was less than 10,000 RMB, resulting in inability to acquire essential resources in the marketplace.

Thus, except for few self-owned resources, it is inevitable that these entrepreneurs acquire resources through an external network. According to American sociologist Granovetter (1973), network ties can be divided into strong ties and weak ties. In sociology literature, debates about tie strength have been ongoing. A contingency approach is required to solve this problem. Existing literature on differing importance of network tie strength shows that this contingency relies heavily on context. The entrepreneurial resource acquisition channels in the Chinese context differ from those in Western mature economies. Although demand for resources is similar in emerging and mature economies, acquisition channels are different. In the specific context of Chinese C2C online consumption, the tie strength, as defined by Granovetter (1973), can be further divided into strong ties, commercial weak ties and experiential weak ties. The impact of these three types of network ties on resource acquisition behavior is determined by the stage at which a C2C online entrepreneur enters the industrial life cycle. Based on the contingency theory perspective, this paper will analyze the impact of industrial life cycle stages on the relationship between strength of network ties and resource acquisition behavior, in order to reveal the uniqueness of and differences between resource acquisition channels of C2C online stores in different contexts.

2. Literature Review and Hypothesis Development

2.1 Tie Strength

The theory of tie strength originated from the sociological theory of group social behavior and, thus, requires modification before applying it to entrepreneurial research. American sociologist Granovetter defined tie strength to be the combination of time duration, emotional intensity, intimacy (mutual confiding) and reciprocity of the network tie. Granovetter (1983) suggests that strong ties are formed by friends or close acquaintances, while weak ties are formed by casual acquaintances. Based on online entrepreneurial practices in a Chinese context, this paper further divides tie strength into strong ties, commercial weak ties and experiential weak ties.

(1) Strong Ties

Entrepreneurs not only gain financial support from strong ties, but also values, beliefs, attitudes, information, skills, and other soft powers and emotional support. Strong ties (such as family members and close friends) are often the source of support for entrepreneurs in uncertain environments. These acquaintances can influence, persuade and provide support to entrepreneurs during the start-up phase. Recent studies have shown that strong ties can assist with the implementation of entrepreneurial activities.

⊖emotional support: For many people, close family members and friends can provide emotional support with regards to important decisions. When compared to individuals who lack supportive strong ties, individuals who enjoy encouragement, positive feedback, recognition, appreciation, and other forms of spiritual support from strong ties, usually have higher ambitions and more opportunities to put ideas into practice. For example, if close friends or relatives favor a particular idea and provide support, the potential entrepreneur will be encouraged to realize the idea.

⊖Practical Support: In addition to providing emotional support, strong ties can also affect the practicality of entrepreneurial ideas. For some individuals, social networks (including strong ties) can provide business advice, knowledge, experience, auxiliary support, guidance, and other forms of practical help. Although weak ties, such as industry peers, may also provide entrepreneurial experience, strong ties have greater motivation to provide support. The diversity of knowledge and information is decreased due to similar backgrounds, but strong ties have more stable and long-term willingness to provide entrepreneurial support.

(2) Weak Ties

Weak ties exist in both non-emotional and more formal relationships. Connections with suppliers, distributors, manufacturers, investors and customers, which can provide the necessary information, capital, purchasing channels and other business resources, are known as commercial weak ties. Role model connections, which are capable of enhancing skills and providing entrepreneurial training, experience or advice, are called experiential weak ties.

⊖Commercial weak ties: Studies show that entrepreneurs can often obtain valuable information from the people they encounter in their business, including (but not limited to) current or past customers, suppliers, manufacturers, distributors and investors. The broader the industry coverage of informal networks, the more likely it is that entrepreneurs can collect useful information (Johansson, 2000).

As an extension to existing conclusions, weak ties can help online store owners in collecting and processing valuable business information required to obtain the necessary resources.

⊖Experiential weak ties: Studies of organizational behavior have shown that many young, relatively inexperienced, entrepreneurs can often get assistance from a business mentor—an older, experienced entrepreneur (Ragins & Scandura, 1999). This mentor can provide useful and diversified information based on their many years of experience (Darwin, 2000), provide support in avoiding risks and solving unexpected difficulties. The entrepreneur, in turn, can obtain the necessary, useful skills and knowledge (Clutterbuck & Ragins, 2002). In short, experiential weak ties can make up for the disadvantages of lack of experience, knowledge and skills, and can provide access to a variety of channels to obtain the necessary knowledge and information.

2.2 The Theory of Resource Acquisition

(1) Resource Development Process and Resource Acquisition

The resource development process was first examined by the pioneers of resource management theory, Sirmon and Hitt et al, who considered resource management to be a set of three simultaneous, sequential activities: constructing resource bundles, bounding resources and capabilities, and leveraging resources and capabilities to exploit opportunity. The activities of constructing resource bundles can be further divided into acquisition, accumulation, and stripping resources (Sirmon & Hitt, 2003).

(2) Resource Dependency Theory and Resource Acquisition

In the context of new firm creation, entrepreneurship literature summarizes the important role of the initial resource endowments for the survival and growth of start-ups (Brush, Greene, & Hart, 2001; Eisenhardt & Schoonhoven, 1990). However, entrepreneurs usually face many challenges in obtaining initial resources. Resource dependency theory suggests that the owners of key scarce resources have strong bargaining power over those in need of the resources. In order to acquire scarce resources, entrepreneurs must negotiate with and convince resource owners to provide resource investments.

(3) Entrepreneurial Resource Types of the Online Stores

In addition to financial capital, at least six different types of organizational resources are important for online stores (Barney, 1991; Hite, Mugimu, & Hite, 2002; Montgomery, 1992). First, physical resources, including tangible assets such as warehouses and products, are necessary. Second, there is a need for human resources, including skilled customer service personnel and warehouse management staff. Third, intellectual resources, including information, knowledge, ideas, Photoshop skills, network communication and information processing skills, photography skills, web design and shop decoration skills, and problem solving skills, are important. Fourth, social network resources, including strong and weak ties (direct or indirect networks) with the ability to obtain other financial and non-financial resources, are essential to success. Examples are relatives, friends, acquaintances, strangers and so on. Fifth, policy resources, including government policy support and norms at national, regional, and municipal level, including regulations and opinions, will affect the business. Sixth and finally, the need for brand and channel resources exists, including channels to communicate with brands, purchase products at lower prices, or obtain unique products or services.

2.3 Tie Strength and Resource Acquisition

(1) Strong ties and Resource Acquisition

Strong ties play important roles in the following aspects of resource acquisition: first, strong ties can communicate tacit, fine-grained information, and facilitate cooperation; Second, strong ties can enhance trust-based understanding and reduce unethical behavior (Uzzi, 1996); Third, strong ties have an important role in the acquisition of specific resources (such as funding); Fourth, strong ties can promote a shared vision, and facilitate resource exchange. Fifth, based on shared geopolitical situation, kinship, educational background, personal growth routine, and a high degree of responsibility and expectation, which is strongly influenced by trust and dependency, strong ties can contribute to the application or exploitation of knowledge; Sixth, entrepreneurs face much environmental uncertainty and lack legitimacy and institutional support from external entities (including customers, suppliers and government agencies) (Aldrich & Zimmer, 1986). From a resource-based perspective, the newly established online stores lack performance records and credit records, suffer from risk of newness and are at greater risk of failure (Stinchcombe, 1965). Therefore, resource owners have a wait-and-see attitude until more tangible information is received to justify resource investments.

Strong ties, based on an emotional connection and trust, are more likely to provide resources to emerging entrepreneurs.

In summary, we propose Hypothesis 1: Strong ties of individual online stores are positively correlated with entrepreneurial resource acquisition.

(2) Weak ties and Resource Acquisition

Weak ties can help online entrepreneurs to acquire resources, specifically through the following: First, weak ties are an important source of diversified information. Granovetter (1973) suggests that the number of weak ties is very important. Cooper, Folta, and Woo (1995) suggest that the formation of start-ups is a learning process, which requires information acquisition to overcome the liability of newness, and that weak ties are important channels to access a variety of information. Granovetter (1983) indicates that only when entrepreneurs have access to information from a variety of network nodes, the effects of opportunity recognition and resource acquisition are superior. Strong ties refer to close social relationships, which involve only limited information channels. As information differs across the entrepreneurial network structure, entrepreneurs have an urgent need to keep in contact with external weak ties for more diverse information and resources, which further weakens the consolidation of strong ties. Second, weak ties have a comparative advantage in presenting new ideas, can provide a broader base of information and resources to individuals or teams, and thus facilitate knowledge transfer (Uzzi, 1996), and can provide growth opportunities to new ventures through mentoring and cooperation; Third, weak ties are able to provide new ventures with opportunities to get access to information and other resources (such as money) through venture capitalists or government-funded channels; Fourth, weak ties can effectively provide non-redundant information, because weak ties enjoy less overlapping contact than strong ties, and varied non-redundant information is widely distributed in structural holes, so entrepreneurs with a large number of weak ties can identify suitable business opportunities from diversified information more easily, and thus obtain the necessary entrepreneurial resources to exploit opportunities.

In summary, we propose Hypothesis 2: Weak ties of individual online stores are positively correlated with entrepreneurial resource acquisition.

2.4 The Moderating Role of Industrial Life Cycle on the Relationship between Tie Strength and Resource Acquisition

Evald, Klyver, and Svendsen (2006) reviewed existing articles about the concept of tie strength, as defined by Granovetter, in order to systematically analyze which ties are more important. Results show that the importance of different strength of ties changes at different stages of the entrepreneurial process. Greve and Salaff (2003) studied the differences of network activities at the three stages of new venture creation and, based on data from four countries, found that the time spent on network building and the achieved network tie types were both inconsistent at different stages: during the planning stage, entrepreneurs would spend more time communicating and discussing with business partners, whereas family members almost always played important roles in creation stages. These conclusions were not obviously varied among countries. In addition, based on the Norwegian context, Jenssen and Koenig (2002) studied the impacts of tie strength on different types of entrepreneurial resource acquisition, and in contrast to previous studies, they found that strong ties are an important channel to obtain information, while weak ties play an important role in the acquisition of financial resources.

For the C2C online consuming market in the Chinese context, the industrial life cycle has experienced a complete history from growth to maturity. In 2003, along with the establishment of the largest Chinese C2C E-commerce platform, Taobao, other online stores sprung up in China; from 2003 to 2007, online stores went through a difficult phase from emerging to survival and gaining a foothold in the market, when the industry was in the introduction period; from 2008 to 2009, online stores experienced the growth stage during ecological issues (in 2008) and socialization (in 2009), and the industry was growing very fast; in 2010, online stores went towards ecological fission, and the C2C consuming market developed into maturity. During the period of data collection for this study, which started in November 2010 and ended in January 2011, online stores being in business less than 1 year were the ones that entered into the C2C market at the mature stage of the industrial life cycle; the online stores being in business for 1 to 3 years were the ones that entered into the C2C market at the growth stage of the industrial life cycle (from 2008 to 2009); and the online stores being in business for 3 to 8 years were the ones that entered into C2C market at the introductory stage of the industrial life cycle (from 2003 to 2007).

Based on previous studies, this paper argues that resource acquisition channels might be different for online stores, which entered into the C2C market at different stages of the industrial life cycle. When entering a prosperous industry at the growth stage and with a good momentum of development, it would be easier for entrepreneurs to convince their families, friends and other strong ties to provide the necessary supportive resources; in contrast, when entering a mature and normalized industry, it would be easier for entrepreneurs to get all types of resources from the already developed market network structure, including financing, experience, advice and successful stories and so on.

In summary, we propose Hypothesis 3: The entering moment of individual online stores into the C2C market in the industrial life cycle plays a moderating role in the relationship between tie strength and entrepreneurial resource acquisition.

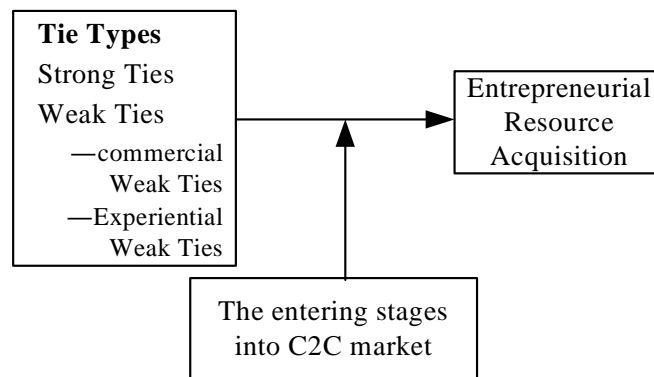The theoretical model is shown in Figure 1.

Tie Types
Strong Ties
Weak Ties
　—commercial
　Weak Ties
　—Experiential
　Weak Ties

Entrepreneurial
Resource
Acquisition

The entering stages
into C2C market

Figure 1 Theoretical Model

3. Sample and Variable Measurement

3.1 Sample and Data

The survey objects of this paper are the individual online stores of the Taobao C2C E-commerce platform (non-mall part), and data collection took place from November 2010 to January 2011. Taobao accounted for more than 80% of the market share in Chinese C2C online shopping and was established in May 2003. Thus, data was collected from firms that had been in business for less than 8 years. According to the GEM report, the Chinese C2C online stores would be considered new ventures.

The main four operators in the Chinese C2C market all designed specialized online trading communication software, which was available for free download and use. This software was used to contact nearly 2,000 C2C online store entrepreneurs. However, due to an abundance of digital viruses, fast working pace of the online entrepreneurs, time constraints and other reasons, only one in every ten contacted entrepreneurs completed the survey. Our research team, composed of graduate students and professors, organized the survey, which was administered on a large scale through direct contact. Social networks of classmates and relatives were also leveraged to establish contact with online entrepreneurs.

Over a period of three months, our research team collected a total of 178 valid questionnaires. The lack of open questions responses was due to low response rates and entrepreneurs' willingness to cooperate. Many store owners had a strong interest in learning the rules about online entrepreneurship and requested recommendations for literature on the topic, as books in the marketplace were limited to the operational levels of start-up procedures and rules and tips. Respondents indicated a lack of systematic summaries and elaboration on the entrepreneurial theories and practices of the C2C individual online stores, especially in the Chinese online entrepreneurial environment. Those entrepreneurs who cooperated with our research had a special interest in the theme and outcome of this research; they overcame the lack of trust, time constraints and other practical difficulties. Most respondents completed the whole survey. In cases that entrepreneurs did not understand or had questions about the survey, timely communication with the researchers took place. Respondents were asked to provide their store's website for further contact regarding details of the questionnaire. A sample profile is given in Table 1.

Table 1: Sample Profile

Sample Features	Quantity	Percentage（%）	Sample Features	Quantity	Percentage（%）
Gender			**Work Experience**		
Male	82	46.1	Yes	132	74.2
Female	96	53.9	No	46	25.8
Age			**Industry**		
Younger than 20	8	4.5	Electronic Digital	25	14.0
20-30 years old	143	80.3	Clothing and Bags	71	39.9
30-40 years old	24	13.5	Beauty Care	25	14.0
40-50 years old	3	1.7	Other Industries	57	32.0
Education			**Establishing Time**		
Above Master	21	11.8	Less than 1 year	91	51.1
Bachelor	80	44.9	1-3 years	68	38.2
Junior College	54	30.3	3-5 years	16	9.0
High School	20	11.2	More than 5 years	3	1.7
Below Junior High	3	1.7	**Weekly Working Hours**		
Capital			Less than 10 hours	15	8.4
0-50,000	155	87.1	11-20 hours	22	12.4
50,000-100,000	13	7.3	21-30 hours	8	4.5
More than 100,000	10	5.6	31-40 hours	20	11.2
Employee Number			41-50 hours	25	14.0
1 individual	88	49.4	More than 50 hours	88	49.4
2-5 persons	86	48.3	**Entrepreneurial Experience**		
6-10 persons	2	1.1	Yes	49	27.5
More than 10	1	1.1	No	129	72.5

3.2 Variable Measurement

Strong ties. Based on the research findings indicated by ErenOzgen (2003), this paper used the following factors to measure strong ties: (1) online store entrepreneurs decided to start a firm based on close relationships with immediate family and relatives; (2) online store entrepreneurs decided to start a firm based on close relationships with friends. This paper adopted a Likert-5 scale to measure strong ties, "1" represents very low level of agreement, "5" represents very high level of agreement. This paper used STRN1-2 to represent the above factors.

Commercial weak ties. Based on the research findings indicated by ErenOzgen (2003), this paper used the following factors to measure commercial weak ties: (1) online store entrepreneurs decided to start a firm based on close relationships with potential or current customers; (2) online store entrepreneurs decided to start a firm based on close relationships with potential or current investors; (3) online store entrepreneurs decided to start a firm based on close relationships with potential or current suppliers, distributors and manufacturers. This paper adopted a Likert-5 scale to measure commercial weak ties, "1" represents very low level of agreement, "5" represents very high level of agreement. This paper used CWEAN1-5 to represent the above factors.

Experiential weak ties. Based on the research findings indicated by ErenOzgen (2003), this paper used the following factors to measure experiential weak ties: (1) online store entrepreneurs decided to start a firm based on close relationships with entrepreneurs in the same or similar industries; (2) online store entrepreneurs decided to start a firm based on close relationships with entrepreneurs in other industries. This paper adopted a Likert-5 scale to measure experiential weak ties, "1" represents very low level of agreement, "5" represents very high level of agreement. This paper used EWEAN1-2 to represent the above factors.

Resource acquisition. Based on the research findings indicated by Ge Baoshan, Hisrich, and Dong Baobao (2009)，this paper used the following factors to measure resource acquisition: (1) online store entrepreneurs are able to acquire various tangible resources from network ties upon entry into the C2C market; (2) online store entrepreneurs are able to acquire various intangible resources from network ties upon entering into the C2C market; (3) online store entrepreneurs are able to acquire a variety of resources from network ties upon entering into the C2C market; (4) online store entrepreneurs are able to acquire needed resources from network ties upon entering into the C2C market; (5) the entrepreneurial resources acquired from network ties upon entry into the C2C market can provide temporary or sustainable competitive advantage; (6) the entrepreneurial resources acquired from network ties upon entry into the C2C market are useful. This paper adopted a Likert-5 scale to measure resource acquisition, "1" represents very low level of agreement, "5" represents very high level of agreement. This paper used REAC1-6 to represent the above factors.

Industrial life cycle stages. Data was split into three groups according to the time online stored had been in business when data collection occurred: 91 questionnaires are from online stores having been in business less than 1 year, 68 from those having been in business for 1 to 3 years, and 19 from the online stores having been in business from 3 to 8 years. Due to the cross-sectional characteristics of the collected data, the time in business of online stores represents the initial time point at which the firm was started. The stores which entered the market at the early stage of the industrial life cycle have been in business for a relatively long time, whereas the stores which entered the market later at the mature stage of the industrial life cycle have been in business for a relatively short time. Thus, we can conclude that the time point of start-up conversely reflects the different entering stages of the industrial life cycle into the C2C market.

4. Hypothesis Testing and Results

4.1 Reliability and Validity Testing

This paper utilized SPSS14.0 to implement reliability and validity tests on the relevant factors which measure strong ties, commercial weak ties, experiential weak ties and resource acquisition. Table 2 shows the reliability test results: Cronbach's α of strong ties and commercial weak ties are 0.664 and 0.662 respectively, and other coefficients are all larger than 0.8, higher than the minimum acceptable level of 0.5. Thus, the credibility test meets the requirements for further testing. Table 2 also shows factor analysis results and descriptive statistics. Only the factor loadings of REAC-5 and REAC-6 are nearly 0.7, while all others are above 0.7. Thus, this research has acceptable reliability and validity.

Table 2: Measurement Criterion of Tie Strength and Resource Acquisition and Factor Analysis, Reliability Test Results

Variables	Dimensions	Items	Factor Loadings	Factor Accumulation（%）	Mean	S.D.
Strong Ties	Strong Ties Cronbach'α=.664	STRN-1	.882		3.2191	1.13609
		STRN-2	.745	74.842	3.6573	1.09466
Weak Ties	Commercial Weak Ties Cronbach'α=.662	CWEAN-1	.703		3.6798	1.07026
		CWEAN-2	.790	59.757	3.3202	1.13184
		CWAEN-3	.779		4.0281	.99960
	Experiential Weak Ties Cronbach'α=.824	EWEAN-1	.872		3.1348	1.17595
		EWEAN-2	.889	85.024	2.9831	1.16189
Resource Acquisition	Cronbach'α=.854	REAC-1	.781		3.7528	.98899
		REAC-2	.795		4.0056	.95962
		REAC-3	.806	57.947	3.7472	1.04591
		REAC-4	.787		3.6685	1.06682
		REAC-5	.698		3.6629	1.05170
		REAC-6	.690		4.0562	.89392

4.2 Hypothesis Testing

The descriptive statistics among variables and the correlations between each set of variables are shown in Table 3. Significant correlations exist between various kinds of network ties as well as between different types of ties and resource acquisition. These findings preliminarily show that tie strength makes an impact on entrepreneurial resource acquisition.

Table 3: Descriptive Statistics and Pearson Correlation among Variables

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9
1Strong Tie	3.4382	0.96498	1								
2Commercial Weak Ties	3.6760	0.82524	.262**	1							
3Experiential Weak Ties	3.0590	1.07785	.388**	.306**	1						
4Resource Acquisition	3.8155	0.76211	.358**	.381**	.381**	1					
5age	2.1236	.48293	.041	-.045	-.085	-.040	1				
6gender	1.5393	.49986	.093	.097	.030	.055	-.090	1			
7work experience	1.2584	.43900	.025	.102	-.062	-.031	-.258**	.108	1		
8Entrepreneurial Experience	1.7247	.44792	.058	.002	-.112	-.048	-.025	.263**	.163*	1	
9Industry	2.6404	1.07616	.112	.044	.096	-.015	.086	.110	-.006	-.148*	1

Note: * * * represents the significance level, p< 0.001 (two-tailed test); ** represents the significance level, p< 0.01 (two-tailed test); *represents the significance level, p< 0.05 (two-tailed test). Age, gender, work experience, entrepreneurial experience and industry are control variables.

On the basis of brief descriptive statistics and correlation coefficients analysis among variables, a multiple regression model is constructed to conduct regression analysis. Results are shown in Table 4.

Table 4: Multiple Regression Results (N=178)

variables	Dependent Variables（Resource Acquisition）							
	Into C2C market at the early stage of industrial life cycle （19）		Into C2C market at the growth stage of industrial life cycle(68)		Into C2C market at the mature stage of industrial life cycle （91）		For the whole industrial life cycle （178）	
	Model1	Model2	Model3	Model4	Model5	Model6	Model7	Model8
Control Variables								
Age	.000	-.363	-.109	-.146	-.043	.094	-.043	-.024
Gender	.287	.161	-.081	-.110	.076	-.038	.076	.028
Work Experience	-.285	-.394	.094	.096	-.040	-.130	-.040	-.052
Entrepreneurial Experience	-.043	.200	-.040	.004	-.067	-.020	-.067	-.048
Industry	-.382	.094	.205	.194	-.030	-.182	-.030	-.080
Independent Variables								
Strong Ties		.256		.332**		.095		.219**
Commercial Weak Ties		.723*		.106		.430***		.264***
Experiential Weak Ties		-.059		.106		.352***		.211**
R2	.203	.599	.061	.228	.011	.448	.011	.267
ΔR2		.396		.167		.437		.256
Adj.R2	-.103	.279	-.015	.123	-.018	.394	-.018	.232
F Change	.664	1.871	.799	2.177*	.373	8.317***	.373	7.694
N=178; *, p<0.05; **, p<0.01; ***, p<0.001；Intercepts are not listed.								

From Table 4 it becomes evident that the regression analysis results of the total sample data show that the relationships between strong ties as well as commercial weak ties and experiential weak ties and resource acquisition are all significantly positive, further confirming the research findings of the existing literature. These findings also show that the resource acquisition channels of Chinese C2C individual online stores come from different types of ties. In addition, for online stores which entered the C2C market at different stages of the industrial life cycle, the significance of entrepreneurial tie strength's impact on resource acquisition is also changing. For the online stores having been in business less than 1 year, which means they entered into the C2C market at the mature stage of the industrial life cycle, the main resource acquisition channels at the start-up stage were weak ties (including experiential weak ties and commercial weak ties), while the correlation between strong ties and resource acquisition is not significant. For the online stores having been in business from 1 to 3 years, which means they entered into the C2C market at the growth stage of the industrial life cycle, the main resource acquisition channels at the start-up stage were strong ties, while the correlation between weak ties (both commercial weak ties and experiential weak ties) and resource acquisition is not significant. For the online stores having been in business from 3 to 8 years, which means they entered into the C2C market at the initial stage of the industrial life cycle, the main resource acquisition channels at the start-up stage were commercial weak ties, while the correlations between strong ties as well as experiential weak ties and resource acquisition are not significant. However, when conducting regression analysis on the total sample data, strong ties as well as two kinds of weak ties all have significant and positive correlations with resource acquisition. The above findings are summarized in Table 5.

Table 5: Significance Distribution of Entrepreneurial Network Tie Types on Resource Acquisition Based on Different Entering Stages on the Industrial Life Cycle

	significance of strong ties' impacts on resource acquisition	significance of commercial weak ties' impacts on resource acquisition	significance of experiential weak ties' impacts on resource acquisition
New entrants（below 1 year）	×	√	√
Middle entrants（1-3years）	√	×	×
Veterans（3-8years）	×	√	×
Total Sample（0-8years）	√	√	√

With the extension of the online stores' entering stages into C2C market on the time axis, the significance of entrepreneurial tie strength's impact on resource acquisition may vary. A graph for these changes is visible in Figure 2.
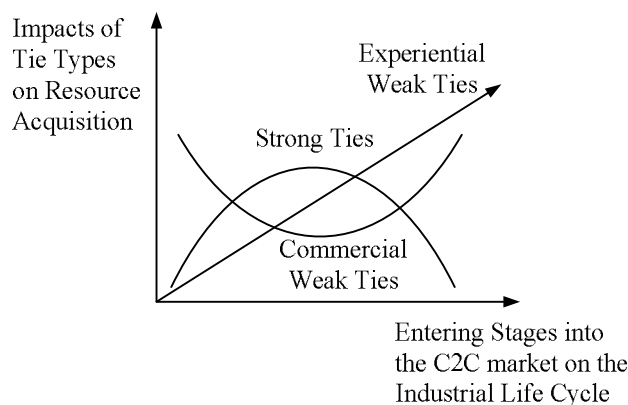

Figure 2 Changing Significance Curve

4.3 Discussion

The regression analysis results for the 19 valid questionnaires of "industry veterans" showed that commercial weak ties played important roles in the resource acquisition process and this importance was stronger than that of the strong ties and experiential weak ties of online entrepreneurs. Several potential reasons for this exist.

First, in the early stage of the industrial life cycle, the market outlook was uncertain, and people had a low sense of identity for the online business, so online stores suffered inadequate legitimacy due to their newness and small scale. People in society lacked awareness for the profession of online store owners, and online entrepreneurs were confronted with a "cultural vacuum" and "cognitive bias". Meanwhile, from the frequency analysis of entrepreneurs' ages, 84.8% of online entrepreneurs were under 30 years old, and it was difficult for these young people to convince their parents, relatives and friends to support them in their online venture, or provide the necessary financial support. Thus strong ties had no significant impact on resource acquisition. Second, in the early stage of the industrial life cycle, online business was a novelty, experiential weak ties which could provide practical experience and/or advice were very rare, and all entrepreneurs were "crossing the river by feeling the stones" and "the first to eat crab", so the availability of the experiential weak ties was low and entrepreneurs had no benchmark. Thus, the available resources that experiential weak ties could provide were very limited. Third, in the case that neither of the above two types of ties were able to make positive impacts on resource acquisition, entrepreneurs could only rely on the commercial weak ties to obtain the necessary external resources, so at this stage, commercial weak ties had a significant impact on resource acquisition.

For the 68 valid questionnaires of "middle entrants", the impact of strong ties on resource acquisition were significant, replacing the role of commercial weak ties while the role of experiential weak ties was still not significant. Several reasons for this exist. With the rapid development of the C2C industry and accumulation of online business performance and credit records, the strong ties' attitudes towards online entrepreneurship changed. This deepened their understanding of online business and enhanced their sense of identity in online entrepreneurship. Furthermore, in the case of predictable market prospects, the likelihood of entrepreneurs to get access to resources from strong ties also increased, and entrepreneurs' skills of leveraging these strong ties might be strengthened as well. Thus, at this stage, the strong ties became the main channel of resource acquisition, to some extent replacing the impact of commercial weak ties and experiential weak ties.

For the 91 valid questionnaires of "new entrants", the impact of strong ties on resource acquisition decreased and weak ties (including experiential weak ties and commercial weak ties) became the main channel for access of various types of resources. Various reasons for this are possible. With the industry becoming mature, the normalized market structure could provide more successful cases as well as entrepreneurial assistance services, which made the experiential weak ties play a significant role. Accompanied with more developed business models, the possibility for acquiring resources from entrepreneurs' commercial weak ties such as suppliers, logistics providers and customers increased. Therefore, the level to which online stores relied on strong ties decreased to a large extent. Thus, at this stage, the entrepreneurs mainly got resources from two types of weak ties, replacing the role of strong ties.

Key points of detailed analysis are summarized in Table 6.

Table 6: Summary of Discussion

	Strong Ties	Commercial Weak Ties	Experiential Weak Ties
Veterans (19) entering the market in the early stage of industrial life cycle	low level of legitimacy, weak sense of identity, culture gap	increased market exploration demands	less availability, few benchmarking , new phenomenon
Middle entrants (68）entering the market in the growth stage of industrial life cycle	strengthened sense of identity, improved skills of utilizing strong ties and promoted availability	replacing roles of strong ties	replacing roles of strong ties
New entrant (91) entering the market in the mature stage of industrial life cycle	Importance decrease	mature industry , mature business models, and better availability	role-models, entrepreneurial mentor and advisors

5. Theoretical Contributions and Practical Implications

5.1 Theoretical Contributions

Theoretical contributions of this paper are mainly reflected in two aspects. First, we enriched and refined the division of tie strength proposed by American sociologist Granovetter in 1973 (1973), based on Chinese C2C online entrepreneurial practice, further differentiated the weak ties to be experiential weak ties and commercial weak ties and analyzed the direct impacts of these three different types of network ties on entrepreneurial resource acquisition. Hypothesis testing results confirmed the existing research findings and further validated the significantly positive relationships between two types of weak ties and entrepreneurial resource acquisition. Second, this paper systematically analyzed the moderating role of entry time in the industry life cycle stages on the relationship between tie strength and resource acquisition, empirically tested the differences and uniqueness of initial resource acquisition channels of individual online stores which entered the C2C market at different stages of industrial life cycle, and theoretically analyzed the reasons for these differences. These two aspects are major theoretical contributions of this paper.

5.2 Practical Implications

The empirical research findings of this paper can provide a basis for guiding practices of individual online store entrepreneurs as well as C2C e-commerce platforms.

From the perspective of C2C entrepreneurs, the practical implications of this paper include: (1) both strong ties and weak ties are crucial for resource acquisition and entrepreneurial success of online stores, and C2C entrepreneurs should, therefore, actively build and maintain both strong ties and weak ties, while maintaining dynamic matching and balance; (2) entrepreneurs who newly enter the C2C industry should take priority to cultivate one or several types of ties based on the maturity of the business industry, because online stores obtain resources mainly from different channels at different entry times of the industrial life cycle; (3) from a long-term and more pervasive perspective, C2C entrepreneurs should pay particular attention to weak ties, among which experiential weak ties can provide a variety of information, knowledge, skills and techniques for entrepreneurs, while they can also be role-models for potential entrepreneurs and provide lessons of failure. At the same time, commercial weak ties are the main channel for most online stores to continuously get steady business resources, especially when the business models tend to be mature. The resources provided by strong ties will only play a limited role for the overall business performance of online stores, so online stores should rely more on interest-based relationships to build commercial ties and maintain operations.

From the perspective of C2C platforms, the practical implications of this paper include: (1) C2C platforms should actively promote online entrepreneurs as well as online consumers to build experiential weak ties, with practices such as the creation of virtual communities, forums and other communication platforms. Taobao gangs, Taobao community and Taobao circles respectively build a platform for Taobao consumers, entrepreneurs and various kinds of like-minded people to exchange and share their opinions and ideas, and thus foster the information sharing and exchange of views, which is conducive to the development of a virtuous circle of ecological networks; (2) C2C platforms should assist entrepreneurs to build and maintain commercial weak ties in order to achieve superior platform performance. Specifically, C2C platforms should optimize sellers' feedback mechanisms, establish and refine a sound credit and performance record for to help consumers identify the online sellers' credit and service capabilities more quickly, and thus help the buyers and sellers to build capability-based trust. Although Anderson, Steinerte, and Russell (2010) indicated that only a limited short-term trust could exist in a purely virtual entrepreneurial network, even capability-based short-term trust can largely reduce the network construction cost, thus reducing the online transaction cost.

6. Conclusion

This paper focuses on the impact of tie strength on entrepreneurial resource acquisition of C2C individual online stores as well as the moderating role of different entry times in the online consuming industry life cycle on these impacts.

Results indicate that for online stores having been in business from 3 to 8 years, which means they entered into the C2C market at the initial stage of the industrial life cycle, the main resource acquisition channels at the start-up stage were commercial weak ties; for online stores having been in business from 1 to 3 years, which means they entered into the C2C market at the growth stage of the industrial life cycle, the main resource acquisition channels at the start-up stage were strong ties; for online stores having been in business less than 1 year, which means they entered into the C2C market at the mature stage of the industrial life cycle, the main resource acquisition channels at the start-up stage were weak ties (including experiential weak ties and commercial weak ties). This conclusion reveals the unique rules of online entrepreneurial activities in the Chinese context, enriching the theoretical system of e-commerce entrepreneurship.

However, this paper also has some limitations. First, if the time in business was set as a continuous variable in the research design, and exact time in business of online stores had been collected, then a specific method of analysis could have resulted in the precise inflection point. Second, the original data was not weighted in the sample distribution, thus we could not ensure that the samples collected fully conformed to the actual distribution of online stores in age, time in business and other aspects.

As we enter the 21st century, commercial activities in an online platform, also known as e-commerce, with its dynamic, fast-growing and highly competitive nature, provide a new way for wealth creation. Established companies are constantly creating new online businesses, and a growing number of new ventures are committed to developing business opportunities offered by the Internet. The fast-growing number of e-commerce businesses worldwide has become a global phenomenon. E-commerce has huge potential to create new wealth through new venture creation and corporate entrepreneurship. Furthermore, online entrepreneurial behavior is changing commercial competition in an unprecedented way. Online businesses have attracted attention from entrepreneurship and strategic management scholars. In fact, the era of e-business provides a platform for the integration of entrepreneurship and strategic management. However, the academic community only has scarce research on e-business and online entrepreneurship. So far, the literature has not yet clearly sorted out the core issues related to this new phenomenon, nor has it developed a new theory to capture the unique characteristics of the virtual marketplace. These common needs of theory and practice will summon more theoretical and empirical studies to explore the new area of online entrepreneurship.

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