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RESEARCH

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Entrepreneurs' imprint: survival and sustainable development of private aesthetic plastic surgery hospitals in China

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Abstract

Recently, the private aesthetic plastic surgery industry in China is developing rapidly and has become the fourth largest service industry of the country which contributes to 1.2% portion of the national GDP and helps to improve employment. Thus, the sustainable development of the industry plays an important role in the sustainability of the Chinese economy which is a problem that cannot be ignored. From the perspective of organizational imprinting, this paper selects seven newly established private aesthetic plastic surgery hospitals in central China as research samples and applies semi-structured interview and content analysis to investigate the relationship between personal characteristics of entrepreneurs and survival trajectories of these hospitals. Results show that entrepreneurs' imprint takes effect in the course of establishing a new hospital through entrepreneurial motivation and initial strategy. Specifically, entrepreneurs' age, educational background, geographical identity and industry experience all contribute to the entrepreneurial success. In addition, entrepreneurs' imprint may be effective in the initial and early stage and then fades away with environmental changes. Corporate strategy is a useful complement to entrepreneurs' imprint afterwards.

Keywords: Entrepreneurs'imprint, Aesthetic plastic surgery hospital, Sustainable development, Entrepreneurial motivation, Initial strategy

Introduction

In recent years, China has experienced an unprecedented period of rapid development, and with people's living standards greatly improved, aesthetic plastic surgery, therefore, has become the fourth largest service industry after real estate, car sales and tourism of the country. As of 2018, the number of aesthetic plastic surgery practitioners in China has exceeded six million, and the market size of the industry has reached 17 billion yuan. Aesthetic plastic surgery hospitals are springing up in various regions in China, and a large number of professional cosmetic surgeons and non-professional entrepreneurs have founded hospitals in this upsurge of entrepreneurship. However, in the early growth of some new aesthetic plastic surgery hospitals, the problems of weak viability and high closure rate are common due to the "liability of newness" encountered (Stinchcombe, 1965). They cannot achieve a "unique resource base" to generate distinctive capability (Brush, Greene, & Hart, 2001) nor sufficient legitimacy to survive

and grow (Zimmerman & Zeitz, 2002). Thus, the sustainable development of aesthetic plastic surgery hospitals in China is a real challenge. For them, the setting up environment is similar, but the founders are different. Do these differences affect the survival and development of the hospital? This is a problem worth exploring and is also the research question of this paper.

The organizational imprinting theory originated from sociology and has been widely used in explaining the phenomenon in the field of economics and management in recent years. It is a theory of “tracing back to the source,” which means that the initial conditions affect the future development trajectories. Thus, we may attempt to explore the effective factors from the start of an entity. It is also a history-based view in assessing the impact by using historical cases or data; for example, Johnson (2007) has researched the founding of Paris Opera under Louis XIV to unpack the imprinting process. In the field of organizational studies, the imprinting theory has been used to analyse the networks (Sullivan & Ford, 2013), organizational turnover (Burton & Beckman, Burton, & O'Reilly, 2007) and individual career (McEvily, Jaffee, & Tortoriello, 2011). In the field of entrepreneurship, scholars probed into the initial conditions such as entrepreneurs or entrepreneurship environment to investigate the impact on the consequences of entrepreneurship, which is fully in line with the purpose of this study.

A long history of research in entrepreneurship has demonstrated that entrepreneurs' characteristics play a pivotal role in the entrepreneurial success (Bamford, Dean, & McDougall, 2000; Boeker, 1989; Eisenhardt & Schoonhoven, 1990). In the Chinese context, Liang, Zou, Song, et al. (2017) examined the formation and development process of the electronic commerce (E-commerce) industry in a village of Guangdong Province, indicating that resource endowment and personal characteristics of entrepreneurs are sources of imprint on the development of the industry. Zhu and Cao (2017) studied the P2P financial industry of China and discovered that industry experience of entrepreneurs has a positive imprint on the sustainable development of the industry. Although these inquiries have helped us understand the impact of entrepreneurs' personal characteristics on new ventures or new industry, we still know little about how these characteristics imprint on the latter, which needs a specific mechanism to explain. In addition, as an emerging industry, the aesthetic plastic surgery industry has been paid little attention among Chinese management scholars whereas its rapid development has aroused great attention and interest from the world. Therefore, our research intends to explore the impact of entrepreneurs' characteristics on the survival and development of nascent and private aesthetic plastic surgery hospitals in China from the perspective of organizational imprinting, so as to reveal the sustainable development path of the industry.

Our research contributes to the literature in three ways. First, we propose a dynamic mechanism of entrepreneurs' imprint through the mediation of entrepreneurial motivation and initial strategy, which takes effect in the initial stage of development trajectory and fades away then. Second, we indicate that for entrepreneurs of aesthetic plastic surgery hospitals, age, geographic identity and previous industry experience are more important factors than educational background in determining the success of the hospital. Thirdly, we may conclude that entrepreneurs' imprint is a crucial factor for entrepreneurial success; nonetheless, the effect of the environment at the inception is critical as well.

The rest of this article is as follows. We first reviewed the literature on organizational imprinting in general and entrepreneurs' imprint in particular and then introduce the method and data we adopted. Next, based on the survey and interview data obtained, we did a thorough analysis and come up with the dynamic model of entrepreneurs' imprint. At last, we conclude this article by summarizing our findings and contributions and discussing future research.

Literature review

The concept of organizational imprinting

In 1873, Spalding (1954), a British biologist, discovered that birds tend to follow the first moving object they see at birth. German biologist Lorenz (1935) called this behaviour imprinting, believing that imprinting originated in the early and short stages of animal life and had a lasting impact. American sociologist Stinchcombe (1965) pioneered the introduction of the concept into the field of organizational research in 1965. After a long period of development, Marquis and Tilcsik (2013) defined the concept of organizational imprinting in 2013. They believed that "organizational imprinting is a process. In a short sensitive period, the organization has formed characteristics that match the specific environment, although the subsequent environment has changed, these characteristics continue to have an impact on the organization" (p.195). Since then, as one kind of historical view, organizational imprint has attracted great attention from the management community and has been widely used in the fields of innovation and entrepreneurship, international business, organizational learning and change, especially in explaining the economic, management, and social phenomenon in emerging economies and countries in transition (Wang & Xie, 2016).

The source of organizational imprinting

The main source of organizational imprinting are the environmental conditions at the founding period and the founder of the organization (Simsek, Fox, & Heavey, 2015). The external environmental factors at the time of establishment are an important part of organizational imprinting, including the industry, institution, economy and ecological condition (Geroski & Portugal, 2010). Previous studies have shown that institutional conditions in a particular period are the mainstream of imprinting research. In the early stage of establishment, organizations must match the external institutional environment in order to ensure positive development. For example, Johnson (2007) believes that institutional conditions shape and restrict the strategic choices of the founders of the Paris Opera House. At the same time, the economic and technological conditions in a specific period will also leave a mark on the future behaviour pattern of the organization. Stinchcombe (1965), however, argues that organizations established in a particular period are significantly different in structure from those established in other periods.

The founders are the original shapers of the organization. They not only bring knowledge and experience to build the initial structure and culture of the organization, but their ideology and behaviour pattern are also reflected in various aspects of the organization development (Mintzberg & Waters, 1982; Schein, 1995). Burton and Beckman et al. (2007) believe that the experiences of the founders or founding teams

determine the breadth and width of future senior managers and business development. Baron, Burton, and Hannan (1999) claim that the founder's own characteristics will affect the future development of the organization in the way they make initial decisions and choose the exact strategy based on their personal background and experience, which is maintained by organizational inertia and institutionalization. Marquis and Qiao (2018) have researched private entrepreneurs in China and found that the communist ideology of some leaders affects the internationalization of the firms.

Entrepreneur's imprint on organizational survival and development

In the early stage of the organization's establishment, it is often faced with the dual pressure of resource constraints and legitimacy lacking (Zhao & Ma, 2016). Entrepreneurs play an important role in how to obtain all kinds of required resources under special environmental conditions and have an important impact on the sustainable development of the follow-up. Why in the same special period, some organizations develop positively, while others are facing rapid decline or even bankruptcy, which is closely related to entrepreneurs' industry experience, market preference and strategic choices. Burton, Sørensen, and Beckman (2002) found that entrepreneurs from high-profile enterprises have obvious advantages over other entrepreneurs in capturing industry information and controlling industry risks. They gain more resources and opportunities from their own industry background and have strong risk control ability, which is conducive to the sustainable development of enterprises. In an empirical research, Li and Wang (2017) found that entrepreneurs of "famous enterprises" and "famous schools" origin are conducive to enterprises to obtain venture capital, among which, "famous enterprises" origin is more significant than "famous schools" origin. Yang, Xue, and Niu (2011) found that the stronger the correlation between entrepreneurs' previous industry experience and new ventures founded, better corporate performance can be achieved. Zhou (2014) found that entrepreneurs' previous industry experience can positively identify entrepreneurship opportunities and is further positively correlated with the capture of opportunities. In addition, some scholars, such as Zhao and Sun (2013), believe that entrepreneurs' industry experience has a threshold impact on new venture development, which is a positive impact within the threshold and negative impact beyond the threshold.

Methodology and data

Nowadays, with the emergence of a large number of aesthetic plastic surgery hospitals, many hospitals have closed down without surviving the initial stage. Some of them were founded by entrepreneurs or teams from a professional background, while others by non-medical or non-aesthetic plastic surgery professionals. With the continuous improvement of national institutional system and market supervision, the industry experience and professional background of entrepreneurs are gradually reflected and brought into play, affecting the brand influence of hospitals and the recognition of consumers. Although some scholars, such as Zhu and Cao (2017), have verified that entrepreneurs' industry experience has a positive correlation with the sustainable development of enterprises from the perspective of organizational imprinting, Liang et al. (2017) have taken Taobao village in Jieyang, Guangdong province of China, as an example and

found that the initial imprinting at different stages will affect the different growth paths of enterprises. Unlike E-commerce and other industries, the aesthetic plastic surgery industry is highly professional. Generally speaking, only those who know this industry very well or have previous experience dare to enter into it. Therefore, does the new organization (hospital) in this industry bear the special founder's imprint? There is little literature on aesthetic plastic surgery development from the perspective of imprinting until now. Eisenhardt (1989) pointed out that case studies are suitable for answering explanatory and exploratory questions in areas that have not yet been fully explained and from which extract theories and principles. Based on this, our study reveals the relationship between the individual characteristics of entrepreneurs and the survival and development of hospitals by investigating the founding and development process of private aesthetic plastic surgery hospitals in a city of Hubei Province for a period of time.

Sample

The case study objects of our study are all selected from a city of Hubei Province. The city is the deputy central city of Hubei Province, ranking second in the overall strength of Hubei Province, with a permanent population of 4.15 million. At present, apart from some developed coastal cities, the city's aesthetic plastic surgery industry ranks first among all the prefecture-level cities in central and southern China which is a representative of cities of the same size and strength. Before 2015, there were only a few professional aesthetic plastic surgery hospitals in the city. After that, several new hospitals emerged, and especially in 2017 and 2018, a plethora of new hospitals emerged in a blowout. Some of them survived and continued to develop, while others disappeared rapidly. We randomly choose seven aesthetic plastic surgery hospitals in the city as our samples. They were all established from January 2016 to April 2018 and they are all newly established hospitals from scratch. In the follow-up survey, there are not only surviving new hospitals, but also failing ones. It is a good way to avoid survivor bias and hindsight bias. The GEM (Global Entrepreneurship Monitor) 2016/2017 Global Report (2017) clearly points out that start-ups/organizations refer to enterprises/organizations that have not been established for more than 42 months, that is, three and a half years.

Data collection

In China, patterns of traditional culture and interpersonal communication are deeply rooted in the behaviour of Chinese entrepreneurs, through which to shape the "personality" of enterprises. For the founders, our study mainly collects information concerning age, geography identity, educational background and previous industry experience because these four aspects of personal characteristics are time-sensitive and fit with the conditions under which imprint takes effect (Simsek et al., 2015). For the development of the hospital, based on Zhu and Cao (2017)'s research that is also carried out in the context of China and from the perspective of organizational imprint, our study mainly collects seven indicators. They are transaction score, revenue score, popularity score, technical score, brand effect, hospital scale and survival time. These seven factors reflect the specific features of the aesthetic plastic surgery industry of China and match with the real business context when we interviewed the founders what are the most important factors to operate a hospital. In order to obtain data about entrepreneurs, we conducted

in-depth interviews every 6 months from June 2016 to June 2018. The reason why we conducted time-interval follow-up survey is because imprinting is time-sensitive to trace the development trajectory of new hospitals, and besides, research on organizational imprinting encourages data of a time span so as to observe the influence of the past on the present and the future. Liang et al. (2017) have surveyed the development of Taobao village in Jieyang, Guangdong province of China, for six times from November 2014 to August 2016, mainly by interview and observation. Marquis and Qiao (2018) obtained data with a 10-year time span (2-year interval) to indicate the ideological imprinting of Maoism on internationalization of Chinese firms. Table 1 provides descriptive information on the participating founders.

The interviews lasted 1–1.5 h. Due to the professionalism of aesthetic plastic surgery hospitals, many founders are particularly sensitive to the business model and marketing data and refuse to disclose too much. For such interviewees, we discuss and verify the data to different personnel. For the data collection of hospital development, we mainly rely on the disclosure of the founder and other second-hand information, such as news media and hospital websites. For hospital survival time, hospital size and other indicators, we obtain through field observation. Table 2 lists the measurement of entrepreneurs' characteristics. There are four indicators: age, geographical identity, educational background and industry experience. To be specific, entrepreneurs aged 30 and below are assigned a score of 1 point, 31–40 years old 2 points and over 40 years old 3 points, respectively; this is simply because research shows entrepreneurs over 30 years old are more likely to succeed than entrepreneurs under 30 (Unger, Rauch, Frese, et al., 2011). Among them, a US study of 270 successful entrepreneurs from 2007 to 2014 suggests that the average age of the most successful entrepreneurs is 45, which means the golden age of entrepreneurship is middle age (Daily & Johnson, 1997). Besides,

Table 1 Description of sample

Survey time	Hospital	Founding time	Registered capital	Current state
June 2016	QW*	Jan. 2016	0.3 million RMB	Open
	YT*	Jan. 2016	2 million RMB	Open
	HM*	Feb. 2016	10 million RMB	Open
Dec. 2016	QW*	Jan. 2016	0.3 million RMB	Open
	YT*	Jan. 2016	2 million RMB	Open
	HM*	Feb. 2016	10 million RMB	Open
Jun 2017	QW*	Jan. 2016	0.3 million RMB	Open
	YT*	Jan. 2016	2 million RMB	Close down
	HM*	Feb. 2016	10 million RMB	Open
	BM*	Feb. 2017	N/A	Open
Dec. 2017	QW*	Jan. 2016	0.3 million RMB	Open
	HM*	Feb. 2016	10 million RMB	Close down
	BM*	Feb. 2017	N/A	Close down
	ZA*	Aug. 2017	N/A	Open
June 2018	QW*	Jan. 2016	0.3 million RMB	Open
	ZA*	Aug. 2017	N/A	Open
	AL*	Feb. 2018	N/A	Open
	MA*	Apr. 2018	16 million RMB	Open

Table 2 Measurement for entrepreneurs' characteristics

	Indicator	Measurement		
Entrepreneurs' characteristics	Age	≥ 40 years, 3 points	31–40 years, 2 points	≤ 30 years, 1 point
	Geographical identity	Local citizen, 3 points	Provincial, 2 points	Outer province, 1 point
	Educational background	Master/Ph.D. of aesthetic plastic surgery, 3 points	Clinical undergraduate, 2 points	Non-medical specialty, 1 point
	Industry experience	Private hospital, 3 points	Public hospital, 2 points	Inexperience, 1 point

entrepreneurs who are local citizens, come from other cities of Hubei province, and from other provinces are given 3 points, 2 points and 1 point, respectively, because native entrepreneurs have more geographical advantages and social networks, which is easier to access all kinds of resources and information needed for founding a new venture. The previous industry experience of entrepreneurs can be divided into three categories: experience of private hospitals, experience of public hospitals and non-experience of hospitals. They are given 3 points, 2 points and 1 point, respectively, because extant research has shown that similar career experiences before and after entrepreneurship are more conducive to the success of entrepreneurship (Beckman et al., 2007). Table 3 lists measurement for development of sample hospitals. All seven indicators are measured on the scale of 1 point.

Data analysis

Starting from June 2016, two of the authors conducted semi-structured interviews and follow-up surveys on newly established aesthetic plastic surgery hospitals. Relevant data of sample hospitals at different stages were collected. These data were obtained through in-depth interviews with entrepreneurs and confirmed by internal staff. The deadline for interviews was June 2018, with a total of five interviews conducted. Table 4 lists out the score of entrepreneurs' characteristics each based on the measurement in Table 2. We can see that the entrepreneur of HT* scores most. The rest of the entrepreneurs get roughly the same score except the entrepreneur of Bo Mei (BM*). Table 5 lists out the score of the development of hospitals based on the measurement in Table 3. Every hospital gets a total score added up from seven dimensions that are most important to the operation of an aesthetic plastic surgery hospital. The turnover of each hospital

Table 3 Measurement for development of hospitals

	Indicator	Measurement
Development of hospitals	Turnover	Monthly turnover per 1 million(RMB) = 1 point
	Net profit	Monthly net profit per 1 million(RMB) = 1 point
	Popularity	Monthly customers per 100 = 1 point
	Technique	Monthly new technique adopted per 10 counts = 1 point
	Brand effect	Monthly advertising cost per 100,000 (RMB) = 1point
	Scale effect	A branch hospital founded = 1 point, No branch hospital founded = 0 point
	Survival time	Open = 1 point, close down = 0 point; the higher the score, the longer survived

Table 4 Score of entrepreneurs' characteristics

	Hospital	Age	Geographical identity	Educational background	Industry experience	Total score
Entrepreneurs' characteristics	QW*	2 (37 years)	3	1	3	9
	HT*	3 (43 years)	3	2	3	11
	HM*	1 (29 years)	3	2	2	8
	BM*	1 (27 years)	1	1	1	4
	ZA*	2 (35 years)	3	3 (master)	2	10
	AL*	1 (30 years)	2	2	2	7
	MA*	2 (31 years)	3	3 (PhD)	2	10

fluctuates. The net profit of every hospital is about 20% average except for those who failed. New techniques adopted and advertisement investment ensure high popularity and customer flow of the hospital. However, to expand and set up a branch does not make much difference among nascent hospitals, and the scale effect is not obvious compared with promotion and innovation. Survival time is a good indicator to the operation and development of the hospital. The higher the score, the longer survived and developed. Table 6 integrates contents of Tables 4 and 5 to provide an overall view of the development of each hospital from June 2016 to June 2018, but we simply can not find a correlation between the score of the entrepreneur's characteristics and that of

Table 5 Score of the development of hospitals

	Hospital	Turnover	Net profit	Popularity	Technique	Brand effect	Scale effect	Survival time	Total
June 2016	QW*	0.7	0.2	0.4	0.2	3	0	1	5.5
	YT*	0.5	0.1	0.2	0.1	1	0	1	2.9
	HM*	0.2	0.05	0.3	0.1	2	0	1	3.65
Dec. 2016	QW*	1.1	0.4	0.3	0.1	3.5	0	2	7.4
	YT*	0.3	0.16	0.2	0.2	3.7	0	2	6.56
	HM*	0.4	0.1	0.5	0.1	4	0	2	7.1
June 2017	QW*	1.9	0.8	1	0.2	5.5	0	3	12.4
	YT*	0.1	− 0.2	0.3	0	0	0	0	0.2
	HM*	0.1	− 0.3	0.3	0	1	0	3	4.1
	BM*	0.2	− 0.2	0.2	0	0	0	1	1.2
Dec. 2017	QW*	4.1	1.2	1.4	0.2	7.2	0	4	18.1
	HM*	0.05	− 0.15	0	0	0	0	0	− 0.1
	BM*	0.03	− 0.2	0.1	0	0	0	0	− 0.07
June 2018	ZA*	0.4	0.13	0.8	0.1	2	0	1	4.43
	QW*	3.5	1.5	2	0.1	7	1	5	20.1
	ZA*	0.6	0.4	0.7	0	2.5	0	2	6.2
	AL*	1	0.46	0.9	0.1	3	0	1	6.46
	MA*	3	0.95	3.5	0.2	5	1	1	14.65

Table 6 Score integration

Hospital name	Entrepreneurs' characteristics	June 2016	Dec. 2016	June 2017	Dec. 2017	June 2018
QW*	9	5.5	7.4	12.4	18.1	20.1
YT*	11	2.9	6.56	0.2	–	–
HM*	8	3.65	7.1	4.1	– 0.1	–
BM*	4	–	–	1.2	– 0.07	–
ZA*	10	–	–	–	4.43	6.2
AL*	7	–	–	–	–	6.46
MA*	10	–	–	–	–	14.65

the development of the hospital. Therefore, we need to do case analysis and apply content analysis technique to discover more.

Case analysis and findings

Case analysis

The first round interview (June 2016)

Ten years ago, aesthetic plastic surgery in China started relatively late and developed much slowly. With the improvement of living standards, the public's aesthetic standard gradually changed and demand for beauty constantly increased, which promoted the aesthetic plastic surgery industry to grow exponentially in recent years. Wang (2009) pointed out that in the past 10 years, the growth rate of aesthetic plastic surgery in China was as high as 406%. In addition, aesthetic plastic surgery in China used to be operated in large public hospitals and private hospitals in first-tier cities. With the consumption upgrading brought out by urban expansion, lots of prefecture-level public hospitals began to set up clinical departments of aesthetic plastic surgery. At the same time, because of the high cost of starting a business and fierce pressure of competition encountered in most big cities, and the income of cosmetic surgeons in public hospitals is relatively lower than that of private hospitals, private cosmetic hospitals emerge one after another in the prefecture-level cities which meets the needs of beauty-pursuit and the concern for privacy for some people. Consequently, there were only a few small-scale aesthetic plastic surgery hospitals in the sample city with relatively limited social influence before June 2016. In June 2016, things have changed. From January to June, there were three nascent hospitals registered through formal procedures, namely Qian Wei (QW*), Ya Tai (YT*), Hua Mei (HM*). The founder of QW* Hospital was 37 years old when he started his business. He was a non-medical undergraduate. He has worked in a private aesthetic plastic surgery hospital for 5 years, where he was mainly responsible for the marketing of the hospital. The founder of YT* Hospital was 43 years old when he started his business. He was a medical undergraduate. Before starting his business, he had worked in a private aesthetic plastic surgery hospital elsewhere. The founder of HM* Hospital was 29 years old when he started his business. He was a local citizen and medical undergraduate. He had previous working experience in public hospitals but no experience in aesthetic plastic surgery. In June 2016, QW* Hospital had the highest score in hospital operation.

The second round interview (December 2016)

Six months have passed since the first round interview and there was no nascent aesthetic plastic surgery hospital registered during this period. QW* Hospital steadily increased with the help of past industry experience and social network resources of the founder. For YT* and HM* Hospital, brand effect attributes to their increase in operation in the way that they invested much in advertisements and promotion campaign to enlarge the popularity of the hospitals. One of the founders told us that he has invested almost 200,000 RMB each month in advertisements, which is not a heavy burden for the hospital. For these private hospitals, customer flow is fairly important to the business income. Unlike public hospitals which get governmental funding every year to cover some of the operational costs, private hospitals must rely on their own and income-generating is the first priority, and thus, they devote a lot to the brand effect investment. When asked if there is a specific way to increase the customer flow apart from the advertisements, the founder refused to disclose, saying it might be a secret in the industry.

The third round interview (June 2017)

In this round of interview, a new aesthetic plastic surgery hospital BM* was established in February 2017. The entrepreneur was 27 years old, provincial, non-medical professional with no experience before but had a strong family background. His friends in the sample city told him the aesthetic plastic surgery industry was becoming increasingly popular, which provided good opportunity to earn money as long as they could get customers. The threshold for entering into the industry was not quite high unless government permit and start-up funds could be achieved. Besides, in the initial stage, imitating first movers of the industry is the best strategy. The entrepreneur was greatly encouraged and set up the BM* hospital. However, 1 month later in March 2017, YT* Hospital closed down mainly due to the breakdown of the capital chain caused by excessive advertising investment. In sharp contrast, QW* Hospital was growing exponentially. The primary growth point was the brand effect. Based on solid capital accumulation in the early stage, QW* Hospital was affluent in marketing and brand promotion to further expand social influence. The main reason for the decline of HM* Hospital was the lack of clear and effective initial market positioning, over-pricing and ineffective customer acquisition and maintenance. At this stage, QW* Hospital has been growing steadily. Its initial impression has been solidified and has obtained plenty of funds and customer resources thereafter.

The fourth round interview (December 2017)

In this round, we surveyed a new hospital Zhong Ai (ZA*), which was founded in August 2017. The entrepreneur was 35 years old then. He had a master's degree in aesthetic plastic surgery and has worked in public hospitals for 3 years. The main motivation for establishing the hospital is as follows according to the interview: He can earn more money and work more freely in his own private hospital than in public hospital and compared with another industry player, he, as the founder, is a professional cosmetic surgeon with mature and outstanding operational techniques, which is particularly an advantage over other competitors. This can also be reflected by the score in Table 4, much higher than other founders. HM*

and BM* Hospital were closed down during this period. The reason for the closure of HM* Hospital was that the founder was a junior in entrepreneurship and lacked sufficient experience in how to handle and avoid risks. In terms of the failure of BM* Hospital, we list out reasons as follows: The founder did not have geographical and network advantage in the early stage of entrepreneurship because he was not a local citizen. He was unable to rely on relatives and friends to drive customer and social resources either. Besides, he had no medical background or professional experience before and thus could not accurately predict and cope with the rapidly changing trend of the industry. At this stage, QW* Hospital was still developing steadily because it vigorously developed new techniques, while introducing a large number of aesthetic plastic surgery postgraduates and doing a good job of talent reserve; moreover, it continued to make efforts in brand promotion.

The fifth round interview (June 2018)

With further legitimization of private hospitals and continuous promotion of the national wave of “mass entrepreneurship and innovation,” an increasing number of Chinese entrepreneurs are aiming at the private medical service market and eager to get dividends. Ao Lai (AL*) Hospital was founded in February 2018. The founder was a 30-year-old resident from outside the province then. He graduated from clinical medicine and has worked in the aesthetic plastic surgery department of a public hospital for 5 years. The founder was quite optimistic about the future development of aesthetic plastic surgery, believing that it would be the leading trend of surgical medicine in the near future. Targeting at the public’s increasing desire and demand for beauty, he decided to resign and started to build an excellent team of entrepreneurs. In addition, the hospital was successfully opened up by publicizing the founder’s past professional experience, which helped exceedingly to gain the market, initial recognition of consumers and legitimacy. The second new hospital Mei An (MA*) was founded in April 2018. The founder was a 31-year-old local, who has obtained a master’s degree in aesthetic plastic surgery from a famous medical college of China. Besides, he has been practicing in a local third-class public hospital for 4 years. During the interview, he told us that the reasons for starting a business are as follows: First, the market demand for aesthetic plastic surgery has a blowout growth, but little money can be made in public hospitals. Second, the big family has business tradition and he was infused with the spirit of entrepreneurship from an early age. Third, he has 4-year experience in aesthetic plastic surgery in the local third-class public hospital, with leading operational techniques in the field, and has earned a good reputation among the relatively stable customer base. Fourth, initial capital can be fully supported and guaranteed by the family. At this stage, QW* Hospital was steadily growing and established a branch to strengthen the service of VIP customers. The main reason for the growth is the accumulation of capital that can effectively avoid market risks, while constantly introducing new techniques and improving customer service and continuous brand promotion. The main reason for the relative decline of ZA* Hospital is that the customer flow is not well managed and maintained, and the customer group is unstable. In a short period of time, MA* Hospital quickly opened a branch in the neighbouring prefecture-level city and planned to expand to the

provincial capital city, trying to quickly establish chain aesthetic plastic surgery hospitals through leading medical techniques, solid brand promotion and marketing strategies.

Case findings

Entrepreneurs' characteristics, motivation and initial strategy

Delmar and Shane (2006) believe that the imprinting effect is most salient in the early stage of the new ventures. Bamford et al. (2000) posit that in the initial stage of the establishment, the founders shaped the organizational form, which has an important impact on the development strategy, organizational structure and follow-up development. Table 7 provides the outcome of content analysis of the interview.

With respect to the age, entrepreneurs of private aesthetic plastic surgery hospitals are mainly between 30 and 40 years old, because entrepreneurs of this age group have certain experiences and skills and they are not satisfied with the status quo; they are eager to challenge themselves and have a strong sense of entrepreneurial self-efficacy. Wagner (2004) believes that as age increases, the skill proficiency and experience richness of entrepreneurs increase. Lévesque and Minniti (2006) posit that the age of entrepreneurs has an important impact on entrepreneurship. Young people tend to be more adventurous and have a stronger learning ability. Besides, in the initial stage, most entrepreneurs prefer to choose their hometown as an entrepreneurial base in order to more easily access the initial resources such as human, financial, material and information resources embedded in the strong interpersonal network. Compared to the educational background and professional experience of entrepreneurs, the latter has a greater impact on the success of entrepreneurship in the aesthetic plastic surgery industry. Li and Wang (2017) show that entrepreneurs' well-known business origin influence the success of entrepreneurship more than their well-known school origin. Soriano and Castrogiovanni (2012) believe that entrepreneurs' industry experience, knowledge and skills directly affect the effectiveness of entrepreneurship decision-making, and it also influences entrepreneurship performance. Thus, we may propose *Proposition 1: The more advantageous the individual characteristics of entrepreneurs (age, geographical identity, industry experience, etc.), the greater the motivation of entrepreneurship.*

In the early stage of entrepreneurship, entrepreneurs bear the stamp of past experience, which directly affects the formation of the initial strategy and this is a manifestation of the entrepreneur's imprint. For example, QW* Hospital's founder had previous experience of marketing management, and the initial strategy adopted was to prioritize marketing; therefore, the hospital implemented successful marketing campaign in the inception phase, contributing greatly to the future sustained competitive advantage. Based on the above analysis, we propose *Proposition 2: In the early stage of entrepreneurship, entrepreneurs' characteristics impact on entrepreneurial initial strategy.*

Entrepreneurs' characteristics and survival and development of nascent hospitals

Before December 2017, several start-up hospitals in the case (QW*, YT*, HM*) were established for nearly 1 year and in their start-up phase. During this period, almost all entrepreneurs believed that their own resource endowment and previous experience played an important role in the establishment of the hospital. Direct imprinting took

Table 7 Content analysis

Constructs	Citation of interviews	Keywords	Name of hospital	Frequency
Entrepreneurial motivation	...I cannot realize my technical value working in public hospitals...	Technical value	HM*, ZA*, AL*, MA*	4
	...I can get more financial rewards and freedom working in private hospitals...	Financial rewards, freedom	QW*, YT*	2
	...I want to have a try while I am still young...	Have a try	QW*, YT*, MA*	3
	...My family supports me...	Family support	HM*, BM*, MA*	3
	...I think aesthetic plastic surgery industry will have a promising future...	Promising future	ZA*, AL*, MA*	3
	...I am an experienced and excellent surgeon with a solid customer... base.	Experienced, excellent, solid customer base	QW*, YT*, AL*	3
Entrepreneur's characteristics	Age	≤ 30 years	HM*, BM*	2
		> 30 years, < 40 years	QW*, ZA*, AL*, MA*	4
		≥ 40 years	HT*	1
	Geographic identity	Local citizen	QW*, HT*, HM*, ZA*, MA*	5
		Provincial	AL*	1
		Outer province	BM*	1
	Educational background	Non-medical	QW*, BM*	2
		Bachelor of medicine	HT*, HM*, AL*	3
		Master of medicine and the above	ZA*, MA*	2
	Previous experience	None	BM*	1
		Private hospital	QW*, HT*	2
		Public hospital	HM*, ZA*, AL*, MA*	4
Initial strategy	...Make an outstanding entrepreneurial team...	Entrepreneurial team	QW*, YT*, BM*	3
	...Create the brand and acquire the legitimacy...	Brand creation, legitimacy acquisition	QW*, MA*, ZA*, HM*	4
	...Acquire external resources by utilizing resource endowment and networks...	Resource endowment, networks	QW*, ZA*, BM*	3
	...Be excellent in talent reserves...	Talent reserves	MA*, AL*, HM*	3
	...Imitate first movers in the industry...	Imitation	YT*, MA*, BM*	3

the effect. For example, an entrepreneur of QW* Hospital had rich resources and previously worked in private hospitals; these two factors directly contributed to the establishment of the hospital. After December 2017, with high market demand and promising future development of the aesthetic plastic surgery industry, more and more entrepreneurs were pouring into it. Some of them adopted first-mover imitation as their strategy and quickly found out the effective business model and development path, such as ZA* Hospital. We define it as the indirect imprint of entrepreneurs. The boom of aesthetic plastic surgery industry has also led to fierce market competition. Under this situation, the first-mover hospitals had to adjust their development

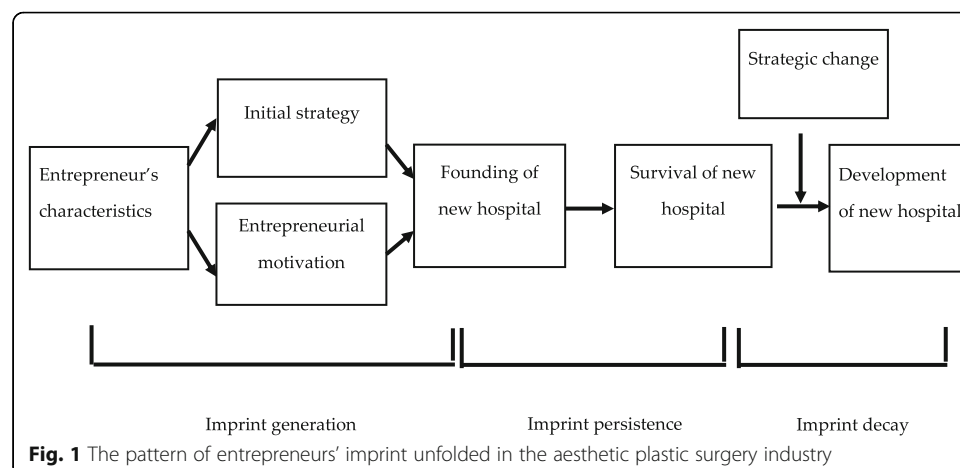
strategies and modes. For example, QW* Hospital aimed at serving VIP customers and business expansion due to the changing environment in the later stage. Meanwhile, some hospitals were unconvinced of the change and close down successively, such as YT*, HM* and BM*. Thus, we may propose *Proposition 3: With the environmental change in the later development stage, entrepreneurs' imprint may fade away; thus, corporate strategy takes effect and accordingly adjusts to the environmental change.*

Conclusions and discussion

Main findings and contributions

Our research explores the relationship between the characteristics of entrepreneurs and the survival and development of new aesthetic plastic surgery hospitals from the perspective of organizational imprinting. The study found out that: (Johnson, 2007) The characteristics of entrepreneurs have an important impact on the survival and development of new aesthetic plastic surgery hospitals. Age, geographical identity, educational background and industry experience all have significant impacts. They are four factors identified important to entrepreneurial success. In the aesthetic plastic surgery industry, industry experience and educational background are essential to ensure expert power of the founder, which generates satisfying performance. (Sullivan & Ford, 2013) This imprinting effect takes place through the mediation of initial strategy and entrepreneurial motivation in the early stage of founding a hospital, then persists through the survival of the hospital and decays gradually with the development of the hospital. (Burton & Beckman, 2007) Corporate strategy is a complement to entrepreneurs' imprint in guiding the development path of the hospital. We illustrate the pattern of entrepreneurs' imprint unfolded in the aesthetic plastic surgery industry in Fig. 1.

Marquis and Tilcsik (2013) first propose a multi-level framework of organizational imprinting. Simsek et al. (2015) then develop the dynamic process of organizational imprinting. That is imprint genesis-metamorphosis-manifestations. They have successfully taken the imprinting concept back to the organization and business research since Stinchcombe first introduced in his work. Imprinting provides us a useful perspective to "systematically identify significant but often subtle contextual influences cross levels and over time" (p.234). However, what they are talking about is general organizational



imprinting, and how specific imprints unfold in various other contexts have not been touched yet. Our research of entrepreneur's imprint in the context of aesthetic plastic surgery is, therefore, an attempt to open an avenue in studying entrepreneurial imprint in the Chinese context.

A major contribution of our study is enriching the connotation of characteristics of the entrepreneurs in the specific aesthetic plastic surgery industry in China and presents the imprinting effect model of the entrepreneurs on the development trajectory of nascent hospitals in the industry. Although some literatures believe that the initial conditions of entrepreneurs have an impact on the development of the organization, there is no literature clearly figuring out the specific mechanism of the impacts. Therefore, based on the theory of organizational imprinting, our study constructs the mechanism of entrepreneur's imprinting through the intermediary of entrepreneur motivation and initial strategy, which makes up the theoretical gap.

Secondly, it enriches and expands the mechanism and boundary of the organizational imprinting theory and reveals the dynamic process of the entrepreneur imprinting in the aesthetic plastic surgery industry. Previous studies paid much attention to the survival and development of state-owned enterprises (Jia, Guang-Lih, & Man, 2019) while little attention has been paid to the private aesthetic plastic surgery hospitals in China which can be regarded as a significant reflection of Chinese new economic reform. The emergence and booming of the industry was regarded as a derivative of the rapid development of society and continuous improvement of people's living standards. In fact, it is not only the outcome of the environment, but also the outcome of the people living in that environment, especially the entrepreneurs; thus, we can conclude that it bears the dual imprints of the institutional environment and entrepreneurs.

Thirdly, it provides a theoretical reference for the sustainable development of China's aesthetic plastic surgery industry. As the fourth largest consumer hotspot in China, aesthetic plastic surgery industry has made important contributions to China's economic development. According to statistics, the income scale of the industry was about 348 billion yuan in 2013 and increased to about 700 billion yuan in 2016. Despite the rapid development, the sustainable development of this industry is worthy of persistent attention because of its low vitality in the inception. Accordingly, our research attempted to summarize the process model of founding and developing private aesthetic plastic surgery hospitals in China. In this model, entrepreneurs' imprint is particularly important for these hospitals. Therefore, it is crucial to improve the qualifications of founders, enhance their industry experiences and exploit their geographical identity advantages in the early stage of the entrepreneurship.

Limitations and future research

By applying structure interview and content analysis method, our research aims to study the relationship between the founder characteristics of private aesthetic plastic surgery start-ups and the survival and development of these hospitals in China. Our research's limitations provide a scope for future research. Firstly, although we used a variety of sources of evidence to ensure the reliability and validity of the data, there may be retrospective bias due to the interview process. We asked founders of the hospitals to recall the experience and important events of the founding progress and this

may induce retrospective bias. Thus, future research may utilize more in-time way of data collection to avoid the retrospective bias of the sample.

Secondly, our research paid attention to the process of entrepreneurial imprints, trying to explain the mechanism of entrepreneurial imprints on entrepreneurial success. Although the conclusion of our study shows that founders of new hospitals are closely related to the survival and development of hospitals, factors such as initial environment, national policy, industry competition and such can not be ignored. We expect a more integrated model of entrepreneurship imprints including all the above factors that should be made in later research.

Thirdly, this study takes private aesthetic plastic surgery hospitals of the central deputy city of Hubei in central China as research sample, and it may lack in diversity and representativeness because of difficulty in obtaining reliable and high-quality data. Besides, considering the imbalanced regional development of China, future research needs to take samples from different parts of China or samples with more variety to induce a more nuanced result.

Abbreviations

AL*: Ao Lai; BM*: Bo Mei; E-Commerce: Electronic Commerce; GEM: Global Entrepreneurship Monitor; HM*: Hua Mei; MA*: Mei An; QW*: Qian Wei; YT*: Ya Tai; ZA*: Zhong Ai

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Declarations

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Authors' contributions

LX developed the research idea, worked on the key section of the research and drafted the manuscript. ML was responsible for the methodology and project administration. HY carried out the data analysis and diagram drawing and helped to draft the manuscript. All the authors read and approved the final manuscript.

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Availability of data and materials

The dataset generated and analysed during the current study is not publicly available since it is based on a personal interview of respondents who do not want to disclose their names but are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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