

Taking the Path Less Traveled: How Responsible Leadership Addresses a Grand Challenge in Public Health, a Case Study from China

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ABSTRACT This study unpacks how responsible leadership driven by a social mission can accomplish both social objectives and financial goals to support an organization's survival. We focus on a social enterprise in the healthcare industry in China and examine how it balances its social mission and economic goals by enlarging the capacity of medical institutions and providing high-quality services to a high number of patients. Through our analysis of the case firm, we reveal the motivation and actions of an entrepreneur in establishing a socially responsible firm and the social implications of responsible leadership in operating such an enterprise. We provide an important supplement and extension to the work of Smith and Besharov (2019) by demonstrating how a responsible leader in China manages the process of balancing social and economic goals. We further contribute to the understanding of how a socially responsible firm can improve the healthcare industry and the reform of China's healthcare.

KEYWORDS Chinese healthcare industry, grand challenge, medical alliance, responsible leadership, social mission

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INTRODUCTION

The provision of healthcare services associated with the aging population is a major challenge in China. The aging population has created an increased demand for healthcare and medical treatment in China over the past three decades, leading to a huge gap between the demand and supply of medical services. In this case study, we show how an entrepreneur demonstrated responsible leadership by incorporating a social mission into his business to address this challenge.

Responsible leadership tends to go beyond legal and economic concerns to focus on 'broader business responsibilities, including those that are relevant to society or citizenship as a whole' (Pless, Maak, & Waldman, 2012: 52). The

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purpose of responsible leadership is ‘to build and cultivate sustainable and trustful relationships to different stakeholders inside and outside the organization and to coordinate their action to achieve common objectives ... , business sustainability and legitimacy and ultimately to help to realize a good (i.e., ethically sound) and shared business vision’ (Maak & Pless, 2006: 103).

Responsible leadership is usually driven by a social mission to solve a major problem in society, and manifests in social entrepreneurs who are ‘people with the qualities and behavior we associate with the business entrepreneur but who operate in the community and are more concerned with caring and helping than “making money”’ (Thompson, 2002: 413). Although social entrepreneurs may experience tension between their social mission and economic objectives (Ebrahim, Battilana, & Mair, 2014), equipped with their social mission they are more likely to accomplish their social objectives with sufficient financial performance to maintain organizational survival (Peredo & McLean, 2006; Shaw & Carter, 2007; Smith & Besharov, 2019). For example, Smith and Besharov (2019) examined how a social enterprise in Cambodia sustained its social and business demands by hiring disadvantaged citizens for its data-entry business. However, we have a very limited understanding of the trade-offs faced by responsible leaders (Stahl & Sully de Luque, 2014), and how responsible leadership overcomes these trade-offs to shape an enterprise’s strategic choices and performance in different national contexts. In this study, we focus on a social enterprise in the healthcare industry in China and examine how this firm balances its social mission and economic goals by enlarging the capacity of its medical institutions and providing high-quality diagnostic services to a higher number of patients. In this case study, we unpack the cognition and actions of an entrepreneur in establishing a socially responsible firm in China. The case firm has not only facilitated the effective operation of medical alliances advocated by the central government to enlarge the capacity of public hospitals, but also enhanced the capabilities of grassroots medical institutions to provide medical services to a large population.

This case intends to serve the following purposes. First, by unveiling the critical motivating role of a founder’s social mission, this case shows that responsible leadership with a social mission can motivate the business leader and firm to overcome difficulties, persevere in the chosen direction, and eventually achieve the expected outcomes. Second, by delineating the evolution of a unique business model developed by the firm to achieve the founder’s social mission, the case reveals how this entrepreneur balanced a social mission with economic goals by prioritizing the social mission while taking profit-making action as a necessary means to fulfill this mission. Thus, we provide an important cross-context replication of the work of Smith and Besharov (2019) and make a unique contribution by revealing the process of balancing social and economic goals for responsible leaders in China. Third, by demonstrating the social implications of the firm’s business model, the case highlights the dynamic features of responsible leadership and the impact of a socially responsible firm on an industry and society.

THE LARGE GAP BETWEEN DEMAND AND SUPPLY IN DIAGNOSTIC TESTS

Over the last four decades, China's market-oriented economic reform has arguably undermined both the public health insurance system and the health delivery system (Wang, 2003). Despite the series of reforms launched by the central government to improve the public health system, the effectiveness of these reforms is in doubt because of difficulties in implementation. The outbreak of severe acute respiratory syndrome (SARS) in 2003 strengthened the government's determination to reform the healthcare system. In April 2009, the Chinese central government launched an ambitious reform plan to provide basic and necessary health services for all Chinese citizens by 2020 (Li & Fu, 2017).

By the end of 2020, there were 35,394 hospitals in China, of which 25,652 were rated hospitals and the rest were grassroots medical institutions (Yunkang Prospectus, 2022: 112). The rated hospitals comprise 2,996 Class III hospitals (i.e., top-tier hospitals), 10,404 Class II hospitals, and 12,252 Class I hospitals. The Class III hospitals are equipped with advanced medical testing facilities, whereas the remaining hospitals provide basic medical services to the communities and are less recognized by patients. Patients often prefer to seek medical care from Class III hospitals, even for common and chronic diseases. As Class III hospitals comprise only 10% of hospitals, the demand and supply gap in medical services has become a significant challenge due to the aging of the population.

To tackle this problem, the Chinese government has implemented a number of policies to promote a hierarchical diagnosis and treatment system (HDTS). This system encourages patients to first seek care at Class I hospitals, which could then refer and transfer patients with severe diseases to the appropriate higher-level hospital for their medical condition. Thus, medical resources can be shared more efficiently.

However, a lack of standardized diagnostic testing quality management makes it difficult to implement HDTS. The diagnostic tests cover a wide range of medical procedures, including but not limited to infectious disease, pathology, genetic disease, hematologic disease, maternity, and neurology. These tests allow doctors to detect the health condition of patients using instruments and reagents, enabling them to make accurate diagnoses in a scientific way and provide the corresponding treatment. However, most Class I and unrated hospitals lack adequate standards and guidelines to provide reliable and high-quality diagnostic testing. Even Class II hospitals can only perform basic diagnostic tests at best. Only Class III hospitals have sophisticated equipment and well-trained personnel to perform advanced diagnostic testing such as for pathology, genetic diseases, and infectious diseases. Moreover, because diagnostic results may vary due to minor errors in specimen collection and routinized procedures, the diagnostic results from lower-level hospitals are often not recognized by higher-level hospitals. These circumstances pose two major challenges to HDTS: first, patients are

concerned about the quality of diagnostic testing at lower-level hospitals (e.g., Class I hospitals and unrated grassroots medical institutions), and second, patients transferred from lower-level hospitals are often required to redo the whole set of diagnostic tests, generating extra expenditure for them and increasing their reluctance to seek medical services from lower-level hospitals.

To solve these problems, policymakers have deregulated the diagnostic business, facilitating the prosperity of the Independent Clinical Laboratory (ICL) industry. ICLs, which originated in the US in the 1920s, provide standardized diagnostic testing services to medical institutions. In 2004, after the SARS outbreak, the Chinese government allowed private capital to establish ICLs and formally granted licenses to existing ICLs in 2009. With the enactment of favorable policies and increasing demand, the ICL industry grew rapidly from around 100 ICLs in 2012 to over 1,800 in 2020.

The major players in the ICL industry focus on four types of diagnostic tests, namely routine testing, pathology testing, genetic and rare disease testing, and infectious disease testing. Apart from routine testing, the tests generally have high technical requirements. It is often not cost-effective for individual hospitals, especially Class II hospitals and below, to conduct these tests in-house, as the number of patients cannot achieve an effective scale to break even. Therefore, ICLs usually rely on the business model of diagnostic outsourcing services, in which samples collected at medical institutions are delivered to the ICLs for testing.

While most ICL firms that use the outsourcing model can make a profit by charging high fees and grouping diagnostic tests from single hospitals to provide medical services, these firms are unable to solve two major bottlenecks faced by medical institutions in China. First, because Class III hospitals and a few Class II hospitals are the primary clients of ICLs, these firms are concentrated in first- and second-tier cities in China and are thus inaccessible to most lower-level hospitals, especially those in rural areas. Second, as Class III hospitals only comprise 10% of all hospitals, it is not clear how ICLs can empower lower-level hospitals and facilitate HDTS through standardized diagnostic quality and mutual recognition of diagnostic results between lower- and higher-level hospitals.

Uneven Medical Resources, HDTS, and Medical Alliances

In China, a significant challenge for the healthcare industry is the uneven distribution of medical resources. As mentioned before, among rated hospitals, only 10% are Class III hospitals with advanced medical capabilities. However, patients prefer to seek healthcare services at Class III hospitals even for common or chronic diseases that could be easily diagnosed and treated in primary hospitals. This propensity has led to a vicious cycle. The limited number of patients who visit Class I and Class II hospitals leads to a lack of sufficient medical resources, which in turn makes patients reluctant to seek medical services from these institutions.

To solve this problem, the Chinese government initiated healthcare reforms in 2015 and established policies to facilitate HDTs. Patients with common and chronic diseases are directed to Class I and Class II hospitals, while patients with critical conditions or complex diseases are treated at Class III hospitals. Furthermore, the system encourages the use of primary hospitals for initial diagnosis and an efficient referral system to direct patients to the most suitable medical institution for treatment. An important tool of HDTs is the establishment of medical alliances, in which medical institutions collaborate to form a regional healthcare system consisting of medical institutions at different levels, usually led by a Class III hospital or at least a Class II hospital. Medical alliances are established to reallocate patients to the appropriate hospital for their medical condition (patients first go to a lower-level hospital from where severe patients are referred and transferred to higher-level hospitals). By doing so, medical alliances can balance the uneven distribution of medical resources and meet the increasing diagnostic demands in China.

While the concept of medical alliances is sound, their implementation faces many challenges. The foremost challenge is the lack of standardized diagnostic testing capabilities across the various hospitals in a medical alliance. Traditionally, different medical institutions have different levels of diagnostic testing capabilities and thus mutual recognition of the diagnostic results is non-existent. As a result, it is not clear who is responsible when diagnostic results are inaccurate or misleading. The prevalence of ICLs is not a solution because medical institutions often use services from different ICLs with different diagnostic capabilities, so that test results may vary among them.

In addition, for medical alliances to work and operate, a variety of services are necessary, such as technical standardization, information-sharing mechanisms, and pharmaceutical cold-chain logistics. Despite this necessity, none of the medical institutions in these medical alliances, whether primary or secondary hospitals, have the capability or willingness to provide such services. Therefore, the successful operation of medical alliances requires a service provider offering not only a range of diagnostic technical support but also a comprehensive portfolio of diagnostic services.

THE CASE FIRM AND DATA COLLECTION

Located in Guangzhou, Guangdong province, the Yunkang Group ('Yunkang' hereafter) offers diagnostic testing services to medical institutions and, more recently, systematic support for the effective operation of medical alliances. The founder of Yunkang, Yong Zhang, received the first license to run a clinical center in China in 2004, five years before the official approval of ICLs by the Chinese government. We conducted six semi-structured interviews with Yong Zhang with intervals of 1–11 months from December 2019 to November 2021. In the initial interview, we asked him to share his business model and how he

came up with it. In five follow-up interviews conducted in 2020, we asked him to elaborate on his business philosophy, business model, and operations in detail. The six interviews lasted between 52 and 280 minutes, with an average of 145.67 minutes. In addition, we interviewed a wide array of internal and external informants, including two top managers at Yunkang, two managers from different hospitals, three investors, and one policy expert. These interviews lasted between 27 and 83 minutes, with an average of 43.29 minutes. To examine the founder's responsible leadership and the resulting impact, all of the interviews used nondirective questions to obtain open-ended narratives. In addition, we made two field visits to the firm and obtained eight of its archival documents comprising more than 1,500 pages.

Yunkang's Development History and the Founder's Social Mission

The founder of Yunkang decided to start a medical and healthcare services business over 20 years ago. At that time, he realized that the gap between demand and supply in medical treatment and healthcare would become a serious concern as China's population aged. Determined to address this challenge, he established Yunkang in 2008.

Learning from the experience of fighting SARS. In the late 1990s, as a professional investor involved in the listing of several high-tech enterprises in China, the founder recognized the radical developments taking place in biotechnology, information technology, and telecommunication technology, and realized that these technologies could jointly affect human life in the future. He invested and managed a listed high-tech biomedical enterprise committed to the R&D, manufacturing, and marketing of in-vitro diagnostic products for disease diagnosis. When SARS broke out in 2003, this enterprise was the first to develop the coronavirus fluorescent quantitative PCR (polymerase chain reaction) reagents in China, and it provided tests for many domestic Centers for Disease Control and public hospitals for free (Zhang, Dong, & Yi, 2020).

The SARS outbreak in China and its serious consequences gave the founder a clearer understanding of the challenges faced by the public healthcare system. He inferred that urbanization and population aging would give rise to a huge demand for high-quality medical treatment and healthcare. Despite the large government investment, public hospitals were unlikely to meet society's needs due to their limited capacity and rigid management practices. He, therefore, visited various institutions around the world to learn how different countries or regions addressed local needs for medical treatment and healthcare.

During the SARS outbreak, he initiated a new model by separating sample collections from diagnosis and applying it to the detection of SARS. After that, he established the first diagnostic service firm in Guangzhou in 2004, with a social mission of 'healthy communities and healthy families' to address the

demand for medical services for China's vast population. 'With a model of "waiting for patients to seek doctors"', he said, 'public hospitals lack the awareness, willingness, and ability to go out to serve their customers. Once society's demand for such services grows explosively, organizations with the capability to provide huge-volume services will be critical. The Yunkang Group was founded based on this logic'. He clearly knew that Yunkang would not be a purely for-profit business, but a social enterprise driven by a long-term vision. 'At the beginning, we defined ourselves as a social enterprise. We defined our goal as meeting the core health needs of the community and family'.

Showing determination and commitment. Understanding the difficulties in implementing his ambitious vision, the founder decided to fully commit to his business. At that time, as the healthcare industry was tightly regulated by the government, he did not know whether and how the firm would make a profit. To show his determination, he invested all of his money into the firm. Due to its ambiguous business model and unclear potential for profit, the firm could not attract venture capital. The founder thus had to raise money from his friends and agreed to receive no salary or monetary return from the firm.

His passion and determination earned support from others. We interviewed one vice president of Yunkang who used to be a top manager at a private company with a high salary. This person was deeply inspired by the founder's social mission and decided to join the company at only one seventh of his previous salary. He said, 'We all care about our own personal health without thinking about how to solve the health problems for the large population, but he did. I think this business is worth doing, and I was greatly inspired at that moment. He is ambitious and an idealist'. Despite debates around the specific means, the team members and partners were inspired by the founder's devotion and commitment and shared his social mission.

Expecting and making sense of changes in the environment. In 2009, the central government issued a policy to encourage social capital to participate in the restructuring and reorganization of selected public hospitals. Yunkang started to work with grassroots medical and health institutions in 2011 and then tried to connect with Class II and Class I hospitals and grassroots healthcare centers from 2015. However, without connections to top-tier hospitals, Yunkang was not able to provide reliable and effective services. In 2014, the state strictly controlled the expansion of public hospitals, prohibited new project construction, and suspended the configuration licenses of large-scale medical equipment. Accordingly, large hospitals were forced to expand their service networks by collaborating with and empowering lower-level hospitals, and thus started to collaborate with Yunkang. In 2017, the government proposed the concept of medical alliances. In 2018, the State Council promoted the deep integration of the Internet and medical health, encouraging both medical/health institutions and qualified third-party

institutions to build information platforms online to support effective communication among hospitals, medical personnel, and patients. In response, Yunkang leveraged its IT capability to facilitate its connections with all medical institutions in several medical alliances by providing solutions for their operation.

The founder's social mission enabled him to start working with grassroots medical institutions and better identify critical societal problems. In interpreting the government's role, the founder was both realistic and positive. 'Hospitals in China are sponsored by the government, and are strictly controlled by the government', he said, 'However, the government promotes the provision of services in a market-oriented manner'.

Developing the 'Yunkang model' by setting standards and building platforms. Yunkang accomplished its social mission by not only applying the frequently used **diagnostic outsourcing model** but also developing an innovative '**Yunkang model**' and a **collaborative model**. By setting industry standards, building platforms, and applying a collaborative model, Yunkang not only provided a range of diagnostic technical support to enhance the diagnostic capabilities of medical institutions, but also established standardization and quality control protocols for medical institutions participating in medical alliances.

As mentioned earlier, a key challenge for the successful implementation of HDTS is the lack of standardized diagnostic quality management, especially for primary hospitals with insufficient diagnostic capabilities. For example, in medical alliances, the diagnostic results offered by lower-level hospitals are often not recognized by higher-level hospitals due to accuracy concerns. The reason for this is insufficient medical resources at lower-level hospitals, which makes it difficult to meet the strict industry standards and procedures of Class III hospitals. When patients are required to redo relevant diagnostic tests upon transfer to a higher-level hospital, they are understandably reluctant to first approach a primary hospital.

Although ICLs can provide standardized diagnostic testing, the number of ICLs and the capacity they provide through the diagnostic outsourcing model remain limited. For example, there are currently about 1,800 ICLs in China compared with 6,800 in the US (Yunkang Prospectus, 2022: 118). Moreover, the geographic distribution of ICLs is highly concentrated in China's first- and second-tier cities. Therefore, many medical institutions do not have qualified ICLs nearby.

In its business strategy, Yunkang could have relied purely on making a profit from a diagnostic outsourcing model for large hospitals as industry peers. However, the founder was determined to provide diagnostic testing to more patients by enlarging the supply of standardized diagnostic testing services.

To achieve this difficult goal, Yunkang started by attempting to establish more ICL subsidiaries from 2008 to 2011. However, the setting-up cost was too high to break even, and the founder and management team decided to stop setting up new subsidiaries. While a social enterprise needs to realize its social

goals, it also needs to balance its economic profits and social goals to remain sustainable.

In searching for new solutions, the management team learned from a local bank in Fujian province that had established more service outlets than the sum of those of all four national commercial banks. However, the bank did not build these service outlets by itself, but rather chose to connect the massive rural credit cooperatives across China via a standardized IT system. Inspired by this practice, from 2012, Yunkang started to **develop a platform**, which was originally a set of IT systems called ‘the Yunkang System’, to support its connections with grassroots medical institutions. Utilizing this platform, Yunkang was able to connect existing grassroots medical institutions and provide them with professional guidance and personnel training.

In 2005, China introduced ISO15189 for the first time in the medical diagnostics industry. ISO15189 is an international standard that specifies the quality management system requirements particular to medical laboratories, which was developed by the International Organisation for Standardization’s Technical Committee 212. Recognizing the importance of international standards, Yunkang worked with the national consultant who introduced ISO15189 to China in 2009 and became the first institution to implement ISO15189 in China. However, ISO15189 was not applicable to small medical institutions in China. Aiming to connect institutions at different levels, Yunkang needed a set of standards applicable to Class II, Class I, and unrated grassroots medical institutions. The founder visited many medical institutions around the world hoping to find a solution to this problem. However, with their considerably different scenarios, none of the existing international standards could be directly applied to the mid- and lower-level hospitals in China.

Yunkang decided to **create the standards** that fit primary medical institutions in China. From 2012 to 2015, Yunkang invited and cooperated with international experts from institutions such as the Clinical and Laboratory Standards Institute and the World Health Organization to develop these standards. After identifying multiple application scenarios, they succeeded in establishing the standards and developed a software system to support connections among the medical institutions in the medical alliances, including primary and mid-level medical institutions.

Nevertheless, it was not easy to convince the hospitals and officials to apply the system, despite it being specifically designed to address their pressing needs. In 2015, the Ministry of Science and Technology (MOST) of China launched the ‘Technology for the People’ program, allowing people from the countryside to benefit from new technologies. Taking advantage of this opportunity, the founder convinced the MOST that it was crucial to apply techniques of medical treatment and diagnostic testing to grassroots institutions. Ultimately, the MOST funded Yunkang to launch a project to explore an efficient way to deliver diagnostic testing items to 70 hospitals in Guangdong province. After

some experimentation, Yunkang identified a procedure by which patients' blood samples were obtained at grassroots medical institutions and delivered to higher-level hospitals for diagnostic testing, after which the result was returned to the grassroots medical institution. Patients diagnosed as severely ill were immediately transferred to the higher-level hospital, and those who were not severely ill were treated at the grassroots institution.

Yunkang further **enriched** its **platform**. In the updated version, diagnostic services were supported by six operating platforms, including *overall business planning, quality control, hierarchical diagnosis and treatment, marketing, smart logistics, and supply chain*. It took Yunkang six years (2012–2018) to refine and complete the entire platform. Through this platform, Yunkang could provide modularized diagnostic testing services to meet each hospital's specific requirements in an efficient and standardized way. The standardized processes and workflows offered by the operating platform have enhanced technical capabilities, operational management, and quality control of the medical institutions served, and thus enabled them to scale up their operations. The platform has since been applied to more medical institutions and become increasingly sophisticated. This was the first platform of this type in the world equipped with a set of standards and was exported to Africa during the COVID-19 outbreak.

Enabling the operation of medical alliances. In 2017, when the government proposed the concept of medical alliances, Yunkang directly contributed to their facilitation and operation by utilizing its platforms and standards. As discussed, the successful operation of medical alliances requires a service provider to provide not only various kinds of diagnostic technical support but also a comprehensive portfolio of diagnostic services. For example, the portfolio provided by Yunkang includes building IT infrastructure and pharmaceutical cold-chain logistics to allow collaboration among different medical institutions related to specimen collection, readings of testing results, inter-hospital sharing of test results, and data integrity. Furthermore, based on its prior efforts in standard setting and platform building, Yunkang was able to develop an innovative collaborative model to provide a diagnostic testing service to facilitate the operation of medical alliances.

Compared with the diagnostic outsourcing model commonly used by other leading firms in the industry, the collaborative model was less used and less profitable. However, it allowed Yunkang to take the role of service provider, rather than that of outsourcing supplier, via two major functions. First, it empowered primary hospitals with diagnostic testing capability and personnel training through on-site collaborative diagnostic centers, and second, it established infrastructure such as pharmaceutical cold-chain logistics and IT systems to allow specimen delivery and test result turnaround within medical alliances between hospitals with on-site diagnostic centers and hospitals without them.

The first function was performed by Yunkang's on-site collaborative diagnostic center, often built together with Class II hospitals that had basic diagnostic

capabilities but lacked sophisticated equipment and trained personnel to conduct complicated testing such as for pathology, genetic and rare diseases, and infectious diseases. Yunkang and the hospital worked together to manage the daily operation of the center. Yunkang provided a range of technical support functions to assist the hospital's diagnostic testing operations to ensure compliance with the standards developed by Yunkang and recognized by other medical institutions. From its past experience of collaborating widely with lower-level hospitals and medical institutions in rural areas, Yunkang was able to empower them to develop their own diagnostic testing capability through the diagnostic center.

Specifically, the core function of the collaborative model was to first deconstruct the diagnostic capabilities of top-tier hospitals, and then reconstruct these capabilities based on the needs of secondary hospitals and grassroots medical institutions. Through IT systems embedded in Yunkang's platform, top-tier experts in Class III hospitals could guide lower-level hospitals to perform the tests, with all of the medical institutions on Yunkang's platform sharing the same professional standards and the same dataset. Through the deconstruction–reconstruction model and its platform, Yunkang has improved the professional capabilities of mid-level and grassroots medical institutions. In fact, this logic is consistent with the medical alliances proposed by the central government, and Yunkang's prior standard setting and platform building efforts allowed it to turn this logic into reality.

The second function of the collaborative model was to establish the infrastructure to enable the turnaround of specimen delivery and test results among the hospitals in a medical alliance. Yunkang's platform achieved this through its IT systems, pharmaceutical cold-chain logistics, and other forms of complementary infrastructure. When an investor was asked about the role of Yunkang in HDTS and the operation of the medical alliances requested by the government, he answered that it 'integrates various sources of information in a standardized way. As a large integrated platform, it solves the problem of poor information flow. Yunkang is more like an infrastructure provider'. An insurance firm manager made following comments on Yunkang's model:

The on-site collaborative diagnostic centers can support many grassroots and community hospitals by allowing them to improve diagnostic capacity and treat more patients. This is a very good model that offers access to high-quality diagnostic services for patients even in community hospitals, especially those patients who have common and chronic diseases.

Yunkang established collaborative diagnostic centers with more than 200 medical alliances and over 800 medical institutions. By 2020, it was one of the two largest providers of collaborative diagnostic centers in China, with a market share of 12.5% by revenue. Despite the great potential of this model to solve the grand challenges of diagnostic testing in China, it was not as profitable as the outsourcing model, making Yunkang less attractive to venture capitalists than firms using the outsourcing model. The founder explained:

Frankly speaking, in terms of profit-making, the diagnostic outsourcing model adopted by my competitors is better than our model, because its service targets and charging methods are clear. However, the collaborative model can enable the delivery of professional diagnostic services to a wider range of patients, and thus reduce costs from a societal perspective ... It may take 1 or 2 years to demonstrate its efficiency and effectiveness.

Compared with the outsourcing model, he believed that the collaborative model was more responsive to China's severe gap between supply and demand in diagnostic testing.

Comparison of the client composition of Yunkang and the top ICL firm illustrates the difference between these two business models. Among the top ICL firm's clients, 40% are Class III or top-tier hospitals and the remaining 60% are lower-level hospitals. Among Yunkang's clients, 20% are Class III hospitals, 60% are Class II hospitals, and the remaining 20% are Class I and grassroots medical institutions. A director of a grassroots hospital mentioned that Yunkang had set up a collaborative diagnostic center at his hospital to improve their diagnostic capabilities. He explained, 'Yunkang provides services fairly. When our specimens are delivered, its service is as fast as that for large hospitals. It also pays attention to the problems we encounter'.

The Industrial and Social Impact of Yunkang's Responsible Leadership

In our interview with Zhang in early November 2021, he talked about three aspects of Yunkang's performance. First, its financial performance was favorable due to the significant increase in scale; second, the firm had gained recognition and built strong relationships with hospitals and medical institutions due to the increased user stickiness brought by its platform; and third, the firm was recognized by both social stakeholders (e.g., the government) and financial stakeholders (e.g., investors). His social mission has resulted in satisfactory financial performance and social performance, suggesting that its social and economic goals did not necessarily conflict with each other.

Benefiting medical institutions at different levels. Yunkang's sustained efforts began to pay off when the government encouraged lower-level hospitals to establish collaborative diagnostic centers with ICLs from 2017. In 2017, Yunkang provided support for the Luohu Hospital Group in Shenzhen in which 5 hospitals, 32 community health centers, and 1 research institute formed a medical alliance. The Luohu medical alliance was recommended as a role model by the National Health Commission (Wang & Wang, 2021). In 2018, the established platform demonstrated its advantages, and Yunkang began to promote this model to more top-tier hospitals. Yunkang established collaborative diagnostic centers with member hospitals and other medical institutions within the medical alliances

and guided them to develop and manage centers with international quality and technical standards in clinical laboratory testing and telepathology. A vice president of Yunkang explained its model:

The best feature of Yunkang is that we have formed a set of standard operating procedures. We co-develop a diagnostic testing center with a hospital following our standard operating procedures (SOPs). The hospital provides the physical site, and we provide the personnel, equipment, and most importantly, the whole operating system. Through the system, the hospital is instantly able to solve problems and make the leap from 0 to 1.

As the Yunkang system can connect top-tier hospitals to lower-level health centers, it not only benefits higher-level hospitals by transferring patients from lower-level medical centers but also improves the capabilities of lower-level medical institutions.

Becoming an industry-leading enterprise by shaping a new ecology. The Yunkang system helped the government to implement the medical alliances. It enabled medical institutions at different levels to conduct more diagnostic tests and allocate medical resources more efficiently by focusing medical resources on appropriate patients. Thus, it directly benefited patients by making higher-quality healthcare services more accessible. An independent policy expert made the following comments:

Yunkang assists the government to strengthen the diagnostic testing capacity of core medical institutions in the medical alliances. For example, hospitals at the county level are the leading institutions of the rural medical community. Yunkang built an on-site collaborative diagnostic center with these hospitals and strengthened their diagnostic capacity. After township medical institutions collect samples and transfer them to the collaborative center in the county-level hospitals, county-level hospitals return the test results to township medical institutions. With experts providing guidance, township medical institutions can now treat patients at their local sites. This practice has greatly improved the service efficiency and reduced the medical cost of patients.

Yunkang integrated its diagnostic services with the operation of the entire medical alliance rather than a single hospital, which increased client loyalty by increasing user stickiness, thus maintaining a sustainable and growing business network. The success of this model was evidenced by the fast growth of the diagnostic centers that Yunkang collaborated with hospitals. By April 30, 2021, its business had expanded to 79 cities in China. From 2018 to 2020, the number of collaborative diagnostic centers grew from 79 to 199, a compound annual growth rate of 58.7%, reaching 275 by December 31, 2021 (Yunkang Prospectus, 2022: 20). In 2022, Yunkang has expanded to smaller cities and regions to cover more grassroots medical institutions. It had established collaborations with hospitals across 31

provinces and autonomous regions in China, with the majority located in Guangdong province where Yunkang is headquartered. The diagnostic centers were working in collaboration with 246 medical alliances covering over 800 medical institutions.

In addition, the Yunkang model has formed and shaped a new ecology. In 2017, Yunkang took the lead in establishing a technological innovation alliance with big data research and development, pharmaceutical companies, and medical device manufacturers to discuss how to better serve the public. Yunkang shared its customers and clients with these partners and suppliers. In 2018, the National Development and Reform Commission partly sponsored Yunkang to construct an HDTs based on health and medical big data. The system aimed to unite universities, enterprises, and medical institutions via information and digital technology, and to connect the primary medical institutions in 16 cities in Guangdong province. This platform is expected to ultimately connect more than 2,000 grassroots health institutions and cover 100 million people.

The Yunkang model has been accepted by investors. An investor explained why his firm decided to invest in Yunkang in 2017:

At that time, we thought Yunkang was unique in the industry. It not only had the ICLs to perform diagnostic outsourcing services, but also built collaborative diagnostic centers with medical institutions and facilitated the operation of the medical alliances. Its business model is constantly updated. Now it can help facilitate the HDTs advocated by the government and help solve the grand challenge of medical resource shortage at the national level.

SUMMARY AND QUESTIONS FOR DISCUSSION

Yunkang aimed to address the grand challenges in China's healthcare industry from the outset. It worked to build a platform to link top-tier hospitals with secondary hospitals and grassroots health centers that provide medical services to the larger population. This choice required a leader with a long-term vision and the sacrifice of short-term profit. Yunkang grew more slowly at first and found it difficult to make a profit. For this reason, it struggled to raise capital from venture capitalists for a long time.

Driven by the founder's social mission, Yunkang empowered its clients with enhanced diagnostic capabilities and its platform created a corporate competitive advantage. Moreover, the founder made the effort to deal with conflicting stakeholder values, demands, and interests, which is a feature of responsible leadership. A responsible leader pursues a vision and goals that are compatible with the needs and interests of all relevant stakeholders. What Yunkang has done is consistent with the way hybrid organizations meet both economic and social objectives (Smith & Besharov, 2019) through the interaction of multiple and diverse stakeholders from different fields (Doherty, Haugh, & Lyon, 2014).

In assessing whether a firm in the medical service industry maximizes profits or creates value for society, the following three indicators can be useful. First, does the firm sacrifice short-term profit for long-term social welfare? Second, does the firm reach less well-financed clients such as secondary hospitals and grassroots healthcare centers to generate public goods? Third, does the firm take responsibility for building infrastructure so that other players can achieve better performance? The founder of Yunkang met all three criteria and has made considerable progress toward fulfilling his social mission while running his business successfully.

In China, the medical service industry has undergone a process of deregulation. As a result, firms in this industry show large variation in the extent to which they pursue profit-maximizing strategies versus strategies to maximize social welfare. This case study shows that a responsible leader can better understand the interests of various stakeholders and explore solutions to meet their needs, ultimately balancing a social mission with economic goals to satisfy the needs of multiple stakeholders. In addition, after identifying the fundamental challenges in a society, it is not easy to find solutions and implement them effectively. To fulfill a social mission, a responsible leader must not only show patience and persistence but also abandon short-sightedness and be willing to sacrifice short-term benefits.

Social entrepreneurs who overemphasize the economic business component experience ‘mission drift’ (Cornforth, 2014). The Yunkang model provides evidence that entrepreneurs can involve their stakeholders successfully to mitigate the effects of mission drift. It also indicates that when social entrepreneurs have a viable business model to sustain the organization financially and explore solutions to the targeted social problem, the social mission may improve their competitive advantage once the organization is financially stable (Muñoz & Kimmitt, 2019).

Yunkang successfully established a platform to connect hospitals at different levels and facilitate the execution of HDTS in China to provide medical services to the whole population. It took nearly 20 years for the founder to realize this social mission. This case is unique in the healthcare industry in China. Here are some questions to open a discussion.

First, how did Yunkang’s founder strike a balance between social and economic goals? As a venture capital investor in the late 1990s, he recognized the crucial role of diagnostic testing in medical treatment and thus chose to enter this industry. It is reasonable to doubt whether the alleged social mission was truly his fundamental goal or whether he simply used the language of a social mission to maximize long-term economic value. However, as discussed, Yunkang did not make a profit for a long time because it followed the collaborative model rather than the more profitable outsourcing model. The founder’s sustained commitment to the social mission is consistent with the definition of responsible leadership. However, as Yunkang has had to survive fierce market competition in the healthcare industry, how the founder managed to remain on the socially

responsible path while simultaneously ensuring the firm's survival is a key issue in this case.

Second, what were the essential differences between Yunkang's business and other enterprises in the same industry? While other leading firms in this industry provided diagnostic outsourcing services for large hospitals, Yunkang took a different route to establish a platform to connect and empower a wide range of hospitals and medical institutions at different levels to provide diagnostic testing services for more patients. How do you view the differences between these two models?

Third, is Yunkang's financial performance sustainable? During a long conversation with Yong Zhang a month before the outbreak of COVID-19, he envisioned that Yunkang's business model would be proved feasible by its financial performance starting from 2020. However, one may argue that the outbreak of COVID-19 rather than its social mission played an important role in shaping its performance (Zhang et al., 2020). Yunkang reported a net loss in 2018 and 2019, and its financial success in 2020 and 2021 resulted from the unexpected outbreak of COVID-19. More importantly, beyond the COVID-19 pandemic, both its rising legitimacy and institutional change may have contributed to this desirable outcome. While our interviews with Yong Zhang, top executives, and investors all confirmed the founder's social mission, many were not fully convinced about the viability of the business model until the outbreak of COVID-19. After the outbreak, however, its managers, employees, and investors gained greater confidence in the firm's strategy and business model, and the firm developed significantly thereafter. What, then, are its prospects of sustaining this performance over the long term? Also, as Yunkang has been listed in Hong Kong Stock Exchange Market in May 2022, now the company inevitably confronts performance pressure from its public shareholders. How would Yunkang balance its social mission and economic objectives as a public firm would be another noteworthy question.

Finally, it is also reasonable to ask how leaders develop or acquire their social mission. Can leaders be trained to develop a passion for solving society's grand challenges using their talents and resources and a willingness to take risks? What can we learn about developing responsible leadership from this founder's background?

NOTES

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