

Universalization of Education and Educational Entrepreneurship in China: Market Opportunities and Challenges

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Abstract. This study examines Chinese education's universalization, entrepreneurship, and potential. Since 1949, when China started tackling adult illiteracy, its education system has gone from universal to global. This advances national growth and human quality. Through research education, evidence-based policy, and industrial excellence, the study examines Chinese universal education and educational entrepreneurship. Educational entrepreneurship involves promotion, early childhood education in rich areas, K12, vocational training, and adult education. This study examines prominent education companies' business strategy, market share, and competitive strategies and how Internet platforms, VR, AR, and gamification effect education. National policy affects special, minority, and social education. This research analyzes how Western teaching methods increase educational accessibility and entrepreneurship in China and other countries. This article discusses global education penetration, education entrepreneurship definitions and qualities, and success and failure stories. It provides evidence-based education policy, practice, and industry development advice to China. Chinese and international education accomplishments are examined for equality, technology integration, and educational entrepreneurship.

1 Introduction

Universal education in China and educational entrepreneurial potential. Research, education, evidence-based policy, and industry are linked by multidimensional analysis. China has pursued universal education since 1986's "nine-year compulsory education" program. Contrast urban and rural schooling. Educational universalization in economic growth zones depends on preschool quality, scope, and breadth. Educational entrepreneurship goes beyond K–12. To forecast future trends, this research examines prominent educational entrepreneurship organizations' business strategy, market share, and competitive tactics [1]. Educational institutions change. Internet, VR, AR, and gamification change education. Studies how technology influences learning and student involvement. Social and educational fairness need national education policy. These guidelines impact educational policy and special education for disabled children and ethnic minorities. Education affects worker creativity, quality, and growth. Entrepreneurship and education bridge urban-rural economic growth. To improve education, the article covers educational quality, fairness, and technological integration in China and other nations. Comparing Chinese and sophisticated Western teaching techniques may enhance education. This study examines Chinese education and entrepreneurship. Science impacts education, practice, and industry [2].

2 Educational Entrepreneurship

2.1 Definition

Educational entrepreneurship is developing worldwide, notably in China. We are back corporate and consumer training tech and methodologies. Education entrepreneurship in China vs. traditional education. Educational entrepreneurs innovate instructional techniques, resources, administrative frameworks, and organizational structures to fulfill market needs and improve productivity. Creative teaching, technological integration, curriculum design, and educational service models exist. Harvard Business Review says educational entrepreneurship customizes teaching using cutting-edge technology and methods. VR or AI may improve education. Chinese pupils get AI-tailored teaching [3].

2.2 Success Cases

2.2.1 ByteDance

Pre-2018 business diversification study: ByteDance was well known for TikTok before 2018, although it has been diversifying. This stage included internal market research and technological R&D to assess edtech entry possibilities. ByteDance's educational technology

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success was built on its strategic strategy and market research.

2019 Market Positioning and Technology R&D Acceleration: In 2019, ByteDance increased its edtech footprint and technological R&D. ByteDance invested much in AI and big data to create personalized learning tools and intelligent teaching platforms. Market research led the company to create instructional goods for various ages and learning levels [4].

2020: New product launch and market response: ByteDance launched a K-12 e-learning platform in 2020. The platform offers math, Chinese, and English. User registration increased significantly within a few months after these items gained market notice.

2021 capital operation and market expansion: ByteDance grew financially and markedly in 2021. The firm received significant educational technology investment funds, reflecting the capital market's optimism for its future. The company also increased its marketing, user base, and educational technology brand impact.

2.2.2 NetEase Youdao Education Platform

Technological innovation and market demand in the early months of 2007: The popularity of NetEase Youdao Dictionary surged in 2007. It facilitated convenient online translation and learning via the use of emerging internet technology and the processing of large amounts of data. NetEase Youdao astutely recognized the need in the market for effective learning tools, laying the foundation for technological advancement.

The 2010s were characterized by the expansion of product offerings and the increase in market size: In response to the expansion of internet technology and the rise of online education throughout the 2010s, NetEase Youdao expanded its variety of products. The company provided language acquisition and K-12 educational resources, which included online platforms for courses. NetEase Youdao had an increase in user engagement and market share from 2013 to 2015, thanks to the implementation of interactive courses and video instructional materials [5].

2019 Management of financial resources and expansion of user base: NetEase Youdao made its debut on the New York Stock Exchange in October 2019, following the footsteps of New Oriental and TAL Education Group. The cash from the initial public offering (IPO) has facilitated the expansion of NetEase Youdao's market share and research and development (R&D) efforts. The publicly available data clearly indicates significant increases in both income and user numbers throughout the quarters after the initial public offering (IPO).

2020 Enhancing Product Performance and Implementing Technological Advancements: In response to the growing competition in online education since 2020, NetEase Youdao introduced new and innovative products and services. The business used artificial intelligence (AI) and machine learning (ML) to improve the quality of teaching and learning. An

example of this is the Smart Learning Pen developed by NetEase Youdao, which utilizes artificial intelligence to assist in the learning process. This innovative product has attracted a significant number of new customers and has received more visibility in the market.

2.3 Failure Cases

2.3.1 Giant Education

Giant Education eventually failed as a result of a sequence of choices, shifts in the market, and changes in regulation spanning many years. This extensive examination covers crucial events from inception to conclusion.

1994 Early Stages: Giant Education, founded in 1994, offered comprehensive education to persons between the ages of 5 and 18. Giant schooling first started its foothold via conventional offline schooling and then increased its market reach by carefully extending its network of branches. The lack of enough investment in technology and internet platforms may have hindered its potential for sustained development in the long run [6].

The first substantial expansion occurred in 2007: In 2007, venture investors invested \$20 million into Giant Education in order to accelerate its growth. It carried out 18 purchases throughout the course of the next year, with a combined cost surpassing \$10 million. These purchases resulted in a rise in both revenue and profit. However, they also led to a deterioration in operational costs and management issues, namely in terms of teaching quality and brand consistency.

The initial public offerings (IPOs) from 2010 to 2012 experienced failures. Despite its fast development, Giant Education missed the chance to become a publicly listed business before 2010. New Oriental and other education firms admit that they missed the best opportunity to take advantage of the Chinese educational stocks when they tried to list abroad again in 2012.

From 2013 to 2017, there were changes in leadership and the team incurred financial losses: Currently, Giant Education is experiencing a substantial depletion of key management and workers. These instances indicate insufficient leadership and an absence of stability within the team, which might have disastrous repercussions for an educational institution that places a high value on teaching and its educators.

In 2018, Elite Education was acquired and a new strategy was implemented: Elite Education, in collaboration with several partners, purchased the whole ownership of Giant Education. The new leadership has indicated their intention to pursue an Initial Public Offering (IPO), a vow to refrain from any employment layoffs, and a plan to raise wage levels. These aspirations may have been too utopian, neglecting market realities and internal operational obstacles.

2020 The Effects of COVID-19 and the "Double Reduction" Policy: The 2020 COVID-19 pandemic has affected conventional physical institutions. Giant Education missed out on the opportunity to take use of

the possibilities offered by the pandemic by failing to make the shift to an online platform. Furthermore, China's "Double Reduction" strategy presented a fundamental threat to its economic model.

2021 Difficulties encountered in daily activities and ultimate closure: The epidemic and regulatory changes had a negative impact on Giant Education's operations. Giant Education has announced its closure on WeChat owing to financial constraints, while successfully addressing most students' course-related issues via partnerships with other institutions.

2.3.2 Wall Street English

Wall Street English's expansion in China experiences fluctuations in a dynamic market. The Chinese market timeline is substantiated by statistics and occurrences.

2000 Entry into the Chinese Market: The first Wall Street English school in China was founded in Beijing in 2000. Wall Street English's first foray into China's huge English learning market. The economic growth and globalization in China have led to an increasing demand for English instruction.

2010: Market Peak: The demand for English instruction in China increased significantly after joining

the World Trade Organization (WTO) and hosting the Beijing 2008 Olympics, resulting in a peak in sales for Wall Street English in 2010. Wall Street English was a prominent adult English training firm known for its worldwide recognition and exceptional teaching.

2012 Significant discounts: Wall Street English's Chinese sales income in 2012 surpassed 1 billion RMB, demonstrating its dominant position in the industry. Wall Street English had significant commercial success in adult English instruction throughout the current year [7].

2017: Change in Equity at Baring In November 2017, Private Equity Asia and CITIC Capital acquired the parent business of Wall Street English for a sum of \$300 million (equivalent to 1.94 billion RMB). This transaction symbolized Wall Street English's worldwide and Chinese approach and the educational and training investment objectives of private equity funding.

The impact of the COVID-19 pandemic in 2020: In the early 2020s, the COVID-19 pandemic severely damaged offline schools and training institutions globally. Wall Street English's China firm faced social isolation and economic downturns as a result of its offline strategy.

Table 1. Super first-tier cities' high school enrolment rate.

Year/City	2018	2019	2020	2021	2022	2023
Beijing	86%	80%	73%	80%	85.5%	91.5%
Shanghai	74%	62%	66%	72%	64%	70%

Challenges in Operations and Bankruptcy 2021: Wall Street English had operational difficulties in 2021, resulting in the closure of its physical storefronts in China. Additionally, the company informed its workers about the process of termination. In June, the corporation was penalized with a fine of 2.5 million

RMB. Table 1 shows the super first-tier cities' high school enrolment rate and table 2 shows the super first-tier cities' undergraduate enrolment rate.

Table 2. Super first-tier cities' undergraduate enrolment rate.

Year/City	2018	2019	2020	2021	2022	2023
Beijing	None	69%	76%	81%	77%	60%-76.7%
Shanghai	71%	71%	73%	71%	73%	75%

3 Empirical Analysis of Education Universalization

3.1 Transforming Education: Entrepreneurship and Technological Innovation

Big data and artificial intelligence change education. Technology changes how people teach and learn, thereby presenting fresh possibilities and difficulties for those working in education. Using technology, schools assess students' preferences, study patterns, development, and grades. Customized technology and data-driven learning might increase corporate

effectiveness. Individualized learning, according to cognitive studies, benefits different types of learners. Big data aids in course modification by instructors. AI changes homework and grades. AI quickly marks and evaluates courses and test performance. Comments enable pupils to swiftly solve problems. Under the new assessment system, deep learning algorithms identify students' learning styles and constraints and provide tailored learning strategies and tools to increase academic performance. AI may make learning enjoyable. Students get virtual teaching tools and artificial intelligence chatbot. AI NLP helps student aid to be improved. Interactive learning increases student involvement, problem-solving, and engagement. Live artificial intelligence student participation and attention

monitoring enhances learning environments. Engagement, emotions, and posture may all help to define student performance [8]. To further education, modern classroom management systems save teacher assignments, notes, and lectures. Entrepreneurs in education use big data and artificial intelligence. Market instability and consumer preferences for product design might be expected from historical data and market patterns. Predictive analytics will help to allocate business resources. Big data and artificial intelligence changed entrepreneurship in education. Improved assessment, personalized learning, interactive platforms, smart classroom management, and predictive analytics all help to improve education. Schools have to control data privacy, algorithmic bias, and technological use as technology develops. Effective teaching tools are those based on innovation and progress.

4 Possibilities and Obstacles

4.1 Competition Impact Analysis

Customized online learning helps schools. In competitive employment markets, companies push vocational training. Studies, producing, and marketing user-friendly educational goods and services may help schools capitalize on demand. Fast technology enables educational entrepreneurship. Modern technologies like AI, big data, mobile Internet, and others enhance teaching. Education benefits from big data. AI-powered teaching robots help struggling pupils. Education and audience growth benefit from tech. R&D, application, and tech help schools compete. Government financing promotes educational entrepreneurship. China values modern, effective, and excellent education. Policies encourage learning and innovation. Tax reductions and subsidies boost school and computer equipment. Informatics and public service platforms enable education enterprises expand and collaborate. Government must encourage educational entrepreneurship. Educational institutions may become worldwide like Chinese firms. Chinese educational companies have significant market potential in Asia and other developing countries due to increased demand for high-quality education goods. Globalization boosts economy, brand, and cross-cultural education. Educational institutions must understand their target audience's educational expectations and culture and adapt their goods and services to succeed globally. Global developers should use educational displays. Educational entrepreneurship involves global strategy, market research, and growth. Chinese education entrepreneurship may grow despite market constraints. Technology innovation, market demand growth, government aid and investment, and international development provide these opportunities. Education entrepreneurs must adopt new methods and adapt to economic and legal realities to grow locally and globally and build brands [9].

4.2 Technology Developments

AI in schooling boosts creativity. The core AI teaching technology, "Little i robot," has improved. Machine learning and language are used by AI educators. With "Little i Robot" tailored instruction, education technology has changed. Kids may learn individually and interactively with "Little i Robot". This AI teaching tool gives fast math, science, and language feedback. By reacting to student emotions, Little i Robot may promote learning. Families and teachers employing "Little i robots" report better student engagement and achievement. Studying without lectures is possible with tech. Continuous academic assessment may alter teacher-parent teaching. The "Little i robot" transformed math, science, and language classes. Schools and families in China use AI to boost learning. Technological advances will make "little i robot" and other AI teaching tools more important. Improved, individualized learning.

5 Online Education Technology Positives and Cons

5.1 Pros

Technology, resource, instructional efficacy, engagement, assessment testing, instructor flexibility, and training are issues in online education. Online learning creates a "digital divide" owing to technology and Internet usage. Poor students may lack online learning tools and network stability. Despite government backing, rural Chinese students lack internet education equipment and networks. Without in-person feedback, online learning may reduce teacher effectiveness and student interest. Kids may get demotivated by communication issues. Classic online courses beat flexible ones. Fairness and honesty in online student assessment are hard [10]. Authentication and monitoring avoid fraud but sacrifice privacy and security. Online teachers may require training. Improve technology and provide online learning and assessment. Teachers' digital skills and flexibility make online education successful. Improve technology, particularly in disadvantaged regions; improve online learning platform engagement and participation; speed up online assessment and examination; and prepare instructors to handle these challenges. They improve online education quality, fairness, and innovation.

5.2 Wisdom

Combining online and traditional schooling may improve advantages and accessibility. Online lessons improve health and performance. Integration requires school-provided online and in-person instruction. Online learning is evaluated and growing. Educational institutions and technology businesses must study augmented and virtual reality, intelligent teaching systems, and other innovative teaching methods to improve learning [11]. Online education must be evaluated for faults, impacts, and innovative teaching

and technology. Online education needs evaluation and criticism. Online education quality and accessibility need equitable technology and resource distribution, innovation and evaluation, and traditional and online learning balance. A comprehensive strategy will improve online education and ensure fairness and quality [12].

6 Advancing Basic Education through Technology and Entrepreneurship in China

Nine-year schools and distant inclusive education improved basic education. Chinese educational technology companies improve education quality and efficiency using AI, big data, and cloud computing. Despite competition and regulation, market optimization and government incentives improve enterprise. Chinese education emphasizes economic growth, regulation, and online/lifelong learning. Education and entrepreneurship improve society and the economy. To meet demand, the report encourages Chinese educational institutions and governments to increase innovation, market research, and product adaptation. Government-education cooperation boosts education and global competitiveness. Future research should increase data quality, uncover regional educational variations, and analyze education and entrepreneurial policy changes. China's education system must examine educational technology and entrepreneurship's long-term policy and progress benefits.

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