

IJRTBT | Factors Affecting Destructive Innovation: A Review

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Abstract

The goal of this study is to open a new road for the development of Chinese businesses by illuminating the mechanism by which destructive innovation provides late-stage businesses with unique development chances and the path of effective catastrophic change. To achieve this, this paper examines the characteristics and transformation of initially destructive advancements. This study shows how destructive innovation undermines industry competition laws whenever the customer value system changes dynamically and how replacing the original technology is an inevitable trend of industry development. Additionally, this study also focuses on the effects of internal and external factors that change the course of an industry. The study also included the importance of small and medium-sized businesses in the Chinese economy. Moreover, this study is from different angles and viewpoints and shows how innovative technologies can be helpful for the progression of a country and its businesses.

Keywords: Chinese Businesses; Destructive Innovation; Small and Medium Size Business; Innovative Technologies

Introduction

The study of disruptive innovation gained attention among professional and academic researchers in the business world not so long ago. However, there are some vague and confusing core principles that exist in this theory. Comparable to how preliminary studies on disruption sparked robust discussion and countless references in scholarly communities, later research studies have barely discussed these points. Such mixed responses call for a careful analysis of the studies on "disruptive innovation" in strategic planning and management. The academic achievement of the theory, highlighting how exceptional situation investigation has helped to clarify its fundamental

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ideas. Investigators have tracked the current theory's development from a "technology-change framework", which was largely descriptive and had a reasonably narrow focus (Kammerlander, König & Richards, 2018). These types of theories explain innovation and its effect on "competitive reaction" more comprehensively.

Literature Review

This is necessary to define disruptive innovations because they alter technology paradigms, shift the evaluation of specific industries, and introduce both possibilities and difficulties for business executives. Disruptive innovations have been identified in the early studies as methods that enable a different set of good or service characteristics distinct from some of those affiliated with development and dissemination and that previously had latency behind the latter under certain features (referred to as "mainstream features"). Mainstream customers place the highest value on these attributes. Because of inadequate knowledge in technology management, the potential obnoxiousness of inventions is frequently so nuanced in their early stages that even senior executives are unable to recognize it (Dana et al. 2022).

Limited disruptive innovations may also be used to describe common disruptive processes and technologies, and these developments' disruptive potential is typically realized via goods.

Although there are many different, confusing, and distorted visions of social innovation definitions and innovations, researchers are becoming more and more attentive to the topic. "Social innovations" have indeed been left out of this research due to the ambiguity and confusion in their categorization. Disruptive innovations may be well described by simple parameters. Market disruption is most likely to begin with highly destabilizing innovations in the lower range. Disruptive ideas need to stand out considering both industry fundamentals and technological aspects. Disruptive innovations are indeed a phenomenon, so shifts in the external environment may have an impact on their various business strategies, ownership, and management. The external world can also have an impact on how conventional consumers value innovation management characteristics. For instance, rising gasoline prices and escalating environmental issues might boost the appeal of "electric and hybrid vehicles". Due to the interconnectedness of technology

advancements, competitive analysis, and environmental effects, we think that an "innovation's disruptive capability" is inherently multidimensional.

This is neither suitable nor appropriate to generalize the concept of disruptive innovations because sheer unpredictability differs depending on the environment, including what is interrupted, about which timeframes, as well as how. The mechanism and outcomes of interruption are generally described by academics as changes in the system. The fact that almost all sectors operating in real-world marketplaces typically ought to modify their methods of operation and procedures regularly, perhaps even very quickly, in response to shifts in demand or because of legislative requirements, should be emphasized.

There has been a perpetual process of shifting in society wherein old goods and services vanish and are replaced by brand-new ones. Technology disruption happens when a new technology outperforms the dominant technology on a significant performance dimension. This means that upheaval can happen on various scales and has the possibility of significantly raising productivity. Innovative disruption could also be possible within a single technology and simultaneously across a number of different industry areas. For instance, in these scenarios, the use of numerical algorithms can require the purchase of new, speedier CPUs and, in the end, enormous data storage in a cloud infrastructure. A disruption could alter a company's main business as well as its infrastructure and services. External company activities can face issues due to these disruptions. Company shares can fall, investors can back off a deal, consumers can be divided, and many other harms can occur due to faulty innovation.

The largest potential upside seems to be in China's economic system. Disruptive innovation sometimes doesn't attempt to "create improved commodities for current clients in established marketplaces," which is referred to as "sustaining innovation." In comparison, initiatives to "change the game" reduce the value of current competencies by drastically altering marketplace needs and requirements, which has the unintended consequence of upsetting the industry's previous key players. By successfully adopting newer technologies, solutions, or business models, these create the circumstances for fresh players to enter the marketplace; eventually altering the nature of the game also helps to create new opportunities and industries (Yu & Fu, 2021).

In recent years, China's economy has been heavily affected by medium and small-sized enterprises, which have become one of the most crucial parts of their national economy. According to Chen, Zhu & Zhang (2017), 99% of the businesses in China are SMEs. The small and medium enterprises contribute 40% of China's taxes and profit 60% of their gross industrial output value. Since China's economic restructuring, SMEs have taken the lead in modernization, accounting for 65% of inventive copyrights, 75% of scientific innovation, and 80% of unique products. Entrepreneurs, who represent most operating businesses in the capitalist economic system in China, have the greatest opportunity for expansion.

Nevertheless, the word "disruptive innovation" is typically used in more basic terms, resulting in the following to describe any breakthrough that upends a market and significantly alters its dynamics of competition: Researchers opted to embrace a greater perspective in accordance with this common practice for two primary reasons: firstly, a larger viewpoint is not just for guiding intellectual and management conversations in general, but also for the newly growing research at the nexus of "disruptive innovation and ecosystems in particular". Secondly, when studying a specific frontier in the social sciences, reasonably comprehensive views are frequently used. Then, further study can try to improve extra features. While introducing a fresh, previously "unique constellation of traits," all along the characteristics that clients generally exhibit are appreciated (Ma, Cheok & Chok, 2023).

Discussion

Theoretical analysis

1. External factors affecting disruptive innovation

Support from the government

One of the main motivators of district change in any industry are the policymakers. However, they can cause barriers to innovation. As a progressive economy such as China, the Chinese government plays an important role in technology and innovation that has a certain significant influence on their industries. In recent years, the Chinese government has implemented many technological innovations, which have gained greater importance in the field. The government believes in "independent innovation" at every national strategic level. In recent years, they have focused on

the fact that China is becoming an "innovation-oriented country" and a place of "innovation-oriented enterprises" It is safe to say that the Chinese local and central governments are putting great effort into disruptive innovation through a different series of policy implementations like exemptions, tax deductions, preferential loans, and fiscal subsidies.

According to Guo et al. (2019), big industries can change the course of a country's economy. However, small and medium enterprises also play a significant role in the economy of any country. On the contrary, Lew et al. (2020) argued that small and medium enterprises have a major disadvantage in their disruptive innovation efforts. Small and medium businesses have a lesser availability of funding, limited channels, and information; additionally, they have to contend with many other factors. Though the government supports SMEs, without the help of bigger industries, small and medium businesses may not be able to flourish. Especially after the COVID situation. The Chinese government is providing financial assistance to uphold the industries. They are trying to motivate the business owners to focus on innovations through construction support, research funding, access to information technology and industries, technical support, business-friendly policies, different service platforms, and many more.

Venture capitalists

Funding is one of the crucial factors that directly helps an enterprise; it is another reason for focusing on innovation. Capitalists like high investment, high risk, and high yielding projects where economic growth, innovation, and driving force are the main core. As opined by Palmié et al. (2020), other than providing finances, network resources, and investment experience are some of the most important factors for any enterprise. This can create a whole new system in a business, and it certainly helps the economy of a country. Additionally, unique outcomes attract the customer base. In the Chinese business world, for small and medium enterprises, private funding plays a major role. However, these private funds are very uncertain and insufficient, and this one thing has many restrictions that can lead to repayment issues and sudden disasters like bankruptcy. This is the main reason any industry must have external business network experience, reputation, and influence. Through the broader network, any form or enterprise can have exposure to resources including technology, education, confidence, and money to deal with their hardships (Tadao Kawamoto & Giovinazzo Spers, 2019).

External knowledge sources

Disruptive innovation breakthroughs increased expectations for an industry's resources and capabilities. In 2003, organizational theorist Chesbrough developed the phrase "open innovation" to denote this type of innovation approach. In accordance with this viewpoint, external sources of information are significant sources of creativity. Businesses must constantly ingest external knowledge and information (Bogers, Burcharth & Chesbrough, 2019).

Small and medium-sized businesses have significantly greater trouble autonomously accomplishing technical achievements because of their limited organizational resources. Utilizing their connection to gather explicit and subconscious information about the company from outside social media platforms has a favorable effect. The more deeply an industry develops its innovation potential, the more likely it is that it will engage in disruptive innovation, according to customers and suppliers. Partnership with some other businesses, including rivals, is advantageous for splitting the risks and expenses associated with radical technologies as well as for splitting the rewards.

2. Internal factors and their impact on SMEs' disruptive innovation

“Internal innovation resources”

A sufficient amount of funding is crucial for successful innovation. Internal innovation assets are indeed crucial, despite the innovation management framework developed by Urbinati et al. (2018). Innovation ventures frequently come to an end due to economic deterioration, which is greater than just about every other factor. In addition to producing new merchandise and services, enough R&D and spending on innovations are needed. All these attributes also boost adsorption knowledge and understanding, which are essential for effective disruptive innovation (Sánchez & Hartlieb, 2020).

A fundamental factor in businesses losing out on development or allocating their limited funds to sustaining innovation is that Chinese firms lack top management, technical executives, and visionary investors. Small and medium companies need to devote adequate human and financial

resources for disruptive innovation to succeed. Big enterprises need to be more flexible (Cozzolino, Verona & Rothaermel, 2018).

“Willingness of innovation”

Every big enterprise needs one individual who can put their own traditional thoughts behind them and move forward with creative innovations (Lee et al. 2019). This type of individual also resists old ideas, rules, and outdated policies within the firm and faces resistance from different board members. Destructive innovation needs these kinds of charismatic individuals. In recent years, Chinese industries have seen very fast upgrades in their different industries and greater opportunities to innovate and invest in the latest technology. Additionally, this fast-moving environment needs very aggressive measures by different progressive entrepreneurs.

Entrepreneurs' enthusiasm and encouragement can give employees guidance and opportunities that might also increase their capacity for creativity and openness to transformation (Melnik et al. 2019). Chinese businesses have a more straightforward institutional framework than multinational businesses do because entrepreneurs frequently arrange creation while also directly taking on its responsibility. Consequently, the individual characteristics of the founder have a significant role in deciding the business strategy of SMEs. A lot of the disruptive innovation in China is actively created by SMEs' entrepreneurs, who frequently even directly get immersed in development activities that build not just capable leadership and coordinators but also its experts. Furthermore, businesses' ability to consistently execute their new initiatives depends on the backing of investors.

“Strategic support”

The effect of an innovation strategy has an enormous impact on the speed of its creativity and innovation. The ability to implement new innovative strategies and a clear vision about applying the strategies in a business are the key factors for any successful business. According to Christensen et al. (2018), a company with progressive adaptability may produce new creative products and attract a new customer base in a shorter amount of time. On the other hand, defensive strategic believer companies focus on existing products that may cause stagnation in the customer base.

A proactive approach encourages firms to focus more on new product development to increase profitability while also changing their company's internal layout to receive additional support,

advice, and guidance (Hopp et al. 2018). Building a comprehensive, lengthy, and adaptable plan for the growth of technology and creativity is crucial for CEOs and managing directors of businesses that are focused on "disruptive innovation".

Conclusion

This study is based on the effects of destructive innovation in Chinese large enterprises and other small and medium enterprises. The high level of uncertainty associated with disruptive innovation, unique strategy implementation, and limited resources affect any big industry. Additionally, it can be concluded that without government funding for different service platforms, individual property production incentives, and private support, small and medium industries cannot carry out high-impact disruptive innovations. As the Chinese economy is built on big enterprises as well as small and medium enterprises, it is necessary to help the SMEs. To stay competitive in the long term, businesses need to invest in innovation, creativity, and public relations. Overall, the study encourages the idea of a disruptive, innovative system in every aspect of a company. This is the only way a business can stay competitive and continue their extraordinary research work for a long time.

References

Bogers, M., Burcharth, A., & Chesbrough, H. (2019). Open innovation in Brazil: Exploring opportunities and challenges. *International Journal of Innovation*, 7(2), 178-191. <https://doi.org/10.5585/iji.v7i2.417.2318-9975>

Chen, J., Zhu, Z., & Zhang, Y. (2017). A study of factors influencing disruptive innovation in Chinese SMEs. *Asian Journal of Technology Innovation*, 25(1), 140-157. <https://doi.org/10.1080/19761597.2017.1302552>

Christensen, C. M., McDonald, R., Altman, E. J., & Palmer, J. E. (2018). Disruptive innovation: An intellectual history and directions for future research. *Journal of management studies*, 55(7), 1043-1078. <https://doi.org/10.1111/joms.12349>

Cozzolino, A., Verona, G., & Rothaermel, F. T. (2018). Unpacking the disruption process: new technology, business models, and incumbent adaptation. *Journal of Management Studies*, 55(7), 1166-1202. <https://doi.org/10.1111/joms.12352>

Dana, L. P., Salamzadeh, A., Mortazavi, S., & Hadizadeh, M. (2022). Investigating the impact of international markets and new digital technologies on business innovation in emerging markets. *Sustainability*, 14(2), 983. <https://doi.org/10.3390/su14020983>

Guo, J., Pan, J., Guo, J., Gu, F., & Kuusisto, J. (2019). Measurement framework for assessing disruptive innovations. *Technological Forecasting and Social Change*, 139, 250-265. <https://doi.org/10.1016/j.techfore.2018.10.015>

Hopp, C., Antons, D., Kaminski, J., & Oliver Salge, T. (2018). Disruptive innovation: Conceptual foundations, empirical evidence, and research opportunities in the digital age. *Journal of Product Innovation Management*, 35(3), 446-457. <https://doi.org/10.1111/jpim.12448>

Kammerlander, N., König, A., & Richards, M. (2018). Why do incumbents respond heterogeneously to disruptive innovations? The interplay of domain identity and role identity. *Journal of Management Studies*, 55(7), 1122-1165. <https://doi.org/10.1111/joms.12345>

Lee, J., Suh, T., Roy, D., & Baucus, M. (2019). Emerging technology and business model innovation: The case of artificial intelligence. *Journal of Open Innovation: Technology, Market, and Complexity*, 5(3), 44. <https://doi.org/10.3390/joitmc5030044>

Lew, S., Tan, G. W. H., Loh, X. M., Hew, J. J., & Ooi, K. B. (2020). The disruptive mobile wallet in the hospitality industry: An extended mobile technology acceptance model. *Technology in Society*, 63, 101430. <https://doi.org/10.1016/j.techsoc.2020.101430>

Ma, C., Cheok, M. Y., & Chok, N. V. (2023). Economic recovery through multisector management resources in small and medium businesses in China. *Resources Policy*, 80, 103181. <https://doi.org/10.1016/j.resourpol.2022.103181>

Melnyk, L., Dehtyarova, I., Kubatko, O., Karintseva, O., & Derykolenko, A. (2019). Disruptive technologies for the transition of digital economies towards sustainability. *Економічний часопис-XXI*, (9-10), 22-30. <https://doi.org/10.21003/ea.V179-02>

Palmié, M., Wincent, J., Parida, V., & Caglar, U. (2020). The evolution of the financial technology ecosystem: An introduction and agenda for future research on disruptive innovations in ecosystems. *Technological Forecasting and Social Change*, 151, 119779. <https://doi.org/10.1016/j.techfore.2019.119779>

Sánchez, F., & Hartlieb, P. (2020). Innovation in the mining industry: Technological trends and a case study of the challenges of disruptive innovation. *Mining, Metallurgy & Exploration*, 37(5), 1385-1399. <https://doi.org/10.1007/s42461-020-00262-1>

Tadao Kawamoto, C., & Giovinazzo Spers, R. (2019). A systematic review of the debate and the researchers of disruptive innovation. *Journal of technology management & innovation*, 14(1), 73-82. <http://dx.doi.org/10.4067/S0718-27242019000100073>

Urbinati, A., Chiaroni, D., Chiesa, V., Franzò, S., & Frattini, F. (2018). An exploratory analysis on the contextual factors that influence disruptive innovation: The case of Uber. *International Journal of Innovation and Technology Management*, 15(03), 1850024. <https://doi.org/10.1142/S0219877018500244>

Yu, J., & Fu, J. (2021). Credit rationing, innovation, and productivity: Evidence from small-and medium-sized enterprises in China. *Economic Modelling*, 97, 220-230. <https://doi.org/10.1016/j.econmod.2021.02.002>