

Study on Financial Fraud Based on the GONE Theory: A Case Study of Luckin Coffee

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Abstract: With the vigorous development of the capital market, the number of financial fraud incidents exposed at home and abroad has been increasing, which has brought serious losses to the interests of the majority of investors, and has also posed a threat to the steady development of the market economy. This paper takes Luckin Coffee as a case study and analyzes the financial fraud of Luckin Coffee through the comprehensive use of literature and statistical analysis methods. With the help of the GONE theoretical framework, this paper comprehensively analyzes the financial fraud of Luckin Coffee from the four dimensions of greed, opportunity, need and exposure. In addition, this article also puts forward specific suggestions on how to prevent financial fraud in listed companies. These enlightenments are intended to provide useful references for enterprises in the same industry to seek a balance between capital expansion and sound operation, so as to promote the sustainable and high-quality development of enterprises.

1. GONE Theory

This paper selects the GONE theory in the risk factor theory as the reason for Luckin's financial fraud. The case is analyzed by using four factors in the GONE theory, namely greed, opportunity, need, and exposure.

1.1. Greedy

Behind the financial fraud, the greed factor plays a crucial role. This kind of greed is not simply material desire, but more manifested in the actor's endless pursuit of interests and disregard for rules. When the perpetrator has a weak sense of morality and lacks sufficient recognition and respect for values such as honesty and fairness, he is more likely to be driven by greed and thus embark on the road of no return to financial fraud.

1.2. Opportunity

From an internal point of view, first of all, the management has the advantage of the position of authority and responsibility and the advantage of information. The imperfection of the internal management system makes the directors, supervisors and their senior managers subject to less corporate constraints and supervision, and the advantages of their positions of power and responsibility can be reflected.

1.3. Need

Luckin Coffee, a company that has successfully gone public in the United States in less than two years, has attracted the attention of many investors with its amazing expansion speed and the momentum of being sought after by capital. However, behind this, Luckin Coffee also faces some challenges and problems.

1.4. Exposure

The rapid development of China's securities market has provided a platform for enterprises to raise funds, but the problem of some enterprises obtaining funds through improper means such as financial fraud is becoming increasingly serious. This is related to the short development time of China's securities regulatory department, the unclear rights and responsibilities, the need to improve the regulatory

system and other internal factors, as well as the impact of the international securities market regulatory system. Although China's securities supervision departments have achieved certain results in cracking down on financial fraud, there are still problems and challenges. First of all, China's securities regulatory authorities have a short development time and unclear powers and responsibilities, resulting in low regulatory efficiency and easy regulatory loopholes. Second, China's securities market regulatory system needs to be further improved, and the punishment for financial fraud needs to be strengthened. Some companies obtain large amounts of money through financial fraud, but the punishment is relatively light, which to some extent contributes to the culture of financial fraud.

2. Luckin Coffee's Financial Fraud Case

2.1. Case review

Luckin Coffee, formerly known as Lucky Coffee Company, was founded in June 2017 and changed its name to Luckin Coffee in December of the same year. After four rounds of financing, the company was successfully listed on the NASDAQ in the United States on May 17, 2019, and in less than two years, it became one of the second largest coffee chain brands in the domestic market after Starbucks. However, in 2020, Luckin Coffee faced unprecedented challenges. On January 31, Muddy Waters, a well-known short-selling agency, released an 89-page anonymous shorting report that questioned Luckin Coffee's financial and operational data. On Feb. 1, Muddy Waters released an investigation report that further alleged that Luckin Coffee had falsified financial and operational data. Although Luckin Coffee denied this on February 3, the development of the situation did not subside. On April 2, Luckin Coffee issued an announcement, admitting that Liu Jian, the company's chief operating officer, and some of his subordinate employees had falsified transactions and other behaviors, involving false transactions amounting to 2.2 billion yuan. The news caused the company's shares to plunge 85% premarket. Subsequently, on May 12, the board of directors decided to remove CEO Qian Zhiya and COO Liu Jian. On May 15, Cayman Islands and Hong Kong courts

ordered the freezing of Luckin Coffee's assets. Finally, on June 27, 2020, Luckin Coffee was suspended from trading on the NASDAQ and began the delisting filing process. Once hailed as the world's fastest IPO company, it has gone from glory to decay in just one year.

2.2. Analysis of financial fraud methods

2.2.1. Inflated revenue profits

After data analysis, it was found that Luckin Coffee had an inflated phenomenon in terms of revenue and profit, which was mainly reflected in two aspects. First of all, according to the official data released by Luckin, in the third quarter of 2019, the number of products sold in a single day per store was 444, and it is expected to reach 483 to 506 in the fourth quarter. However, through the on-the-ground monitoring

project organized, 92 full-time and 1,418 part-time staff were mobilized, and 981 store days were recorded, covering 100% of the opening hours of 620 stores. Actual data collected from the fourth quarter of 2019 shows that the number of items sold in a single day at each store is only 263. In addition, the use of "skip orders" to lead to an unusual increase in the number of pick-ups was also observed. Comparing Luckin's publicly available data with on-the-ground visit data, the results showed that the number of online orders for the same store on the same day swelled from 34 to 232, with the number of items per store per day inflating by 69% in the third quarter of 2019 and 88% in the fourth quarter of 2019. These findings suggest that there is a significant inflated phenomenon in the number of goods sold by Luckin Coffee.

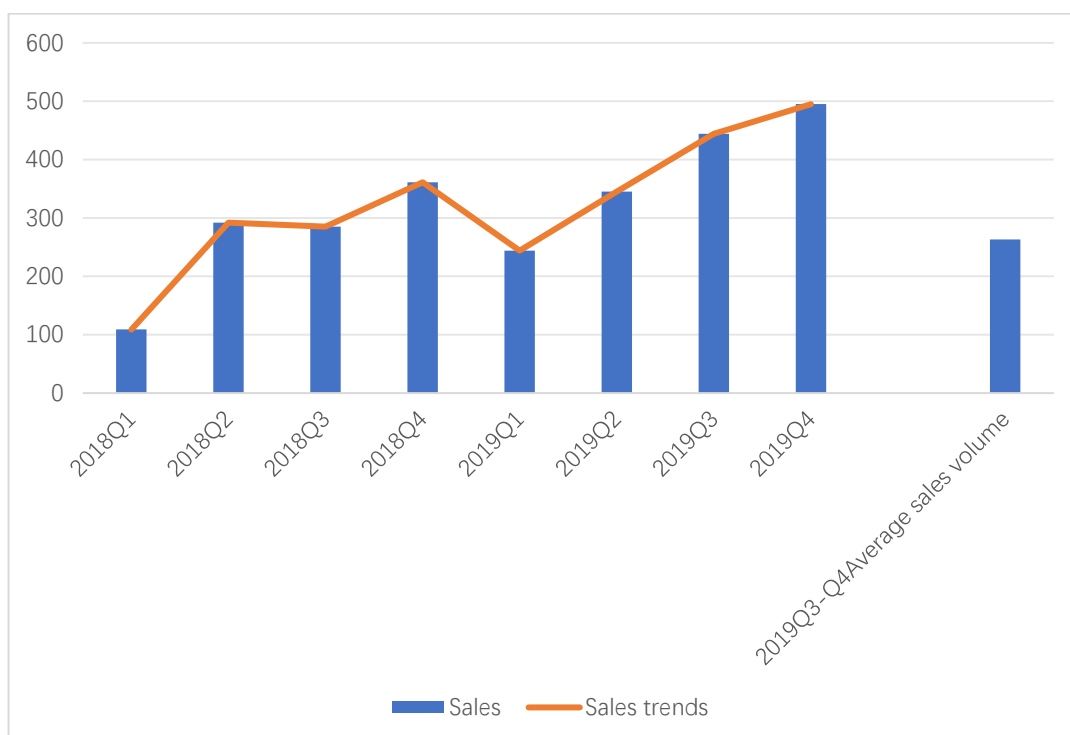


Figure 2-1. Daily sales of Luckin Coffee single store

Luckin, on the other hand, inflated its net selling price per item. According to Luckin's publicly disclosed financial report for the third quarter of 2019, the net selling price of each item was 11.2 yuan. However, according to the short-selling report released by Muddy Waters, it collected and analyzed 25,843 customer receipts to show that the net selling price of a single item of Luckin is actually only 9.97 yuan. Comparing these two sets of data, it can be clearly seen that Luckin has inflated the net selling price of at least 1.23 yuan or 12.3% per product.

Table 2-1. Luckin Coffee's single-item reported price vs. Muddy Waters Survey price

Unit price: yuan	Report the price	Muddy waters measure the price	Exaggerating the amount	Exaggerated proportions
The net selling price of the product	11.2	9.97	1.23	12.3%
Percentage of listing price	50%	42%	-	-

2.2.2. Inflated costs

Companies are inflated in the reporting of their costs, particularly in the presentation of advertising expenses. Of particular concern is the obvious anomaly in ad spend related to Focus Media. In the second quarter of 2019, the company disclosed 154.5 million yuan of advertising spending, but this only accounted for 64% of its total advertising expenses of 242 million yuan. Data from CTR market research further reveals the severity of the problem. According to the data, the advertising expenses shown in the financial report for the third quarter of 2019 were 382 million yuan, of which Focus Media's expenditure was only 46 million yuan, accounting for only 12% of the total advertising expenses. This percentage is much lower than in previous quarters. If Focus Media's advertising spend in the third quarter was not much different from the previous quarter, then it is reasonable to inflate that the company inflated its advertising expenses by at least 150%, or 336 million yuan. This finding raises serious questions about the veracity and accuracy of the company's financial reporting, and needs to be of great concern to regulators and investors.

Table 2-1. Luckin Coffee and Focus Media advertising costs

Unit: 0.1billion	2019Q1	2019Q2	2019Q3
Luckin announced advertising expenses	0.43	2.42	3.82
CTR studies Focus Media accounts for advertising spending	0.23	1.15	0.46
Proportion of Focus Media's advertising spending	53%	48%	12%

Compared with the inflated operating profit of 397 million yuan in Q3 2019, the current situation is not much different, suggesting that the inflated advertising expenditure may be used to "make up" the operating profit gap. Most systems automatically deduct raw material inventory on a per-order basis, and a false increase in sales volume will increase the cost of materials, which will be reflected in the report as revenue to break even. The coffee industry has few assets and low value, and the rapid growth of assets is suspicious, so it is more difficult for auditors to detect Luckin's inflated expenses while increasing revenue.

2.2.3. Related Party Transactions

According to Luckin's 2019 balance sheet, the receivables from related parties as of the end of 2018 amounted to 148 million yuan, much higher than the accounts receivable of its online payment platform. In September 2019, the total accounts receivable was only 11.429 million yuan, far lower than 148 million yuan, which may involve related party transactions. Chairman Lu Zhengyao may transfer assets through related parties, such as the acquisition of Borgward and the transfer of 137 million yuan to related party Wang Baiyin (coffee machine supplier). Lu Zhengyao is also the major shareholder of CAR, holding 10.05% of the shares. Luckin allocates funds to Hydrogen Power, which buys Luckin products to increase revenue. The Muddy Waters short report noted that Luckin's management did not sell its shares, but cashed out 49% of its shares through stock pledges, representing 24% of the shares outstanding. Luckin raised \$865 million to develop a "unmanned retail" strategy, which could be a way for management to siphon up cash. Co-founder Yang Fei was sentenced for illegal business operations, and iWOW, where he once worked, is now a CAR subsidiary and has related party transactions with Luckin. In summary, Luckin may use related party transactions to transfer assets to achieve fraud.

3. Financial Fraud Analysis of Luckin Coffee Based on GONE Theory

3.1. Greed factor analysis

Since its inception, Luckin Coffee has suffered from the moral character of its executives. Lu Zhengyao, Qian Zhiya and others have profited in the capital market through equity pledges, and now they have taken about \$2.5 billion from Luckin's daily operations, accounting for about 49% of the value of its shares. In promoting its "unmanned retail" strategy, Luckin raised \$865 million through additional issuance and issuance of convertible bonds, but the untapped market for unmanned coffee machines has facilitated management's withdrawal of cash from the company's assets. Co-founder Yang Fei has a record of illegal business operations and has complex related party transactions with Luckin. Sean Shao, an independent director, has repeatedly

served as a director of tainted Chinese concept stock companies, resulting in huge losses for public investors. Luckin's management's poor record has raised suspicions of financial fraud, possibly by inflating operating income to cash out in the capital market. The lack of professional ethics and integrity among executives of listed companies is the main cause of financial fraud, posing a serious threat to the interests of investors and the health of the capital market.

3.2. Opportunistic factor analysis

Before Luckin Coffee landed on the NASDAQ, its main financing came from the Shenzhou system. CAR went bankrupt due to rapid business expansion and financial discrepancies. Shenzhou Car Rental was successfully listed in Hong Kong, with a market value of up to 40 billion yuan, and the actual holding company of UCAR Technology cashed out at the high point of the stock price. Management often uses financial whitewashing to show performance that attracts investors, and after attracting investors to buy shares, managers will sell their shares to cash out. After the company is listed, the market and investors have higher requirements for it, and if the performance is poor, it may face the risk of falling stock price, being abandoned by investors or even delisting. As a listed company, Luckin Coffee is required to issue quarterly reports and disclose operations and important matters in accordance with regulations. After the listing, it attracted attention, and its management tried to shape the image of "potential stocks" through financial fraud.

Table 3-1. Luckin Coffee's true performance breakdown

Unit: 0.1billion	2019Q1	2019Q2	2019Q3	2019Q4
Main business income	8.71	14.94	4.56	7.81
Raw material costs	4.68	7.18	2.40	3.77
Rent and other expenses	3.73	4.75	3.70	4.76
depreciation	0.86	1.08	0.89	1.11
Average store profit	-0.54	1.85	-2.43	-1.86

Luckin Coffee's stores in Q2 and Q3 of 2019 lost average profits, and it has not achieved profitability since its listing. Despite its lack of profitability, Luckin continues to expand rapidly and requires significant financial support. As a result, Luckin has opted for financial fraud, which misleads investors and stakeholders by inflating revenues and expenses to beautify its financial statements and attract investment in the company's business model. In this way, Luckin can obtain financial support to meet its refinancing needs and maximize its own interests.

3.3. Factor analysis is required

Luckin Coffee has publicly stated on more than one occasion that the low penetration, uneven quality and high price of China's coffee market have inhibited the development of new coffee in China, believing that its own business model can promote the progress of China's mass coffee market. Luckin Coffee's business model is technology-driven, data-centric, customer experience-driven, and uses high discounts and subsidies to attract customers. In the whole year of 2018 and the first quarter of 2019, marketing expenses of 746

million yuan and 168 million yuan were spent respectively, as shown in Figure 4.2 below, the per capita customer acquisition cost in Q1 of 2018 was 103.5 yuan, and in Q1 of 2019 it dropped to 16.9 yuan per capita, and the promotion

expenses decreased from 15.8 yuan to 6.9 yuan in the same period. At the same time, Luckin often launches a large number of coupons and giveaways to attract more customers, maintain existing customers or launch new products.

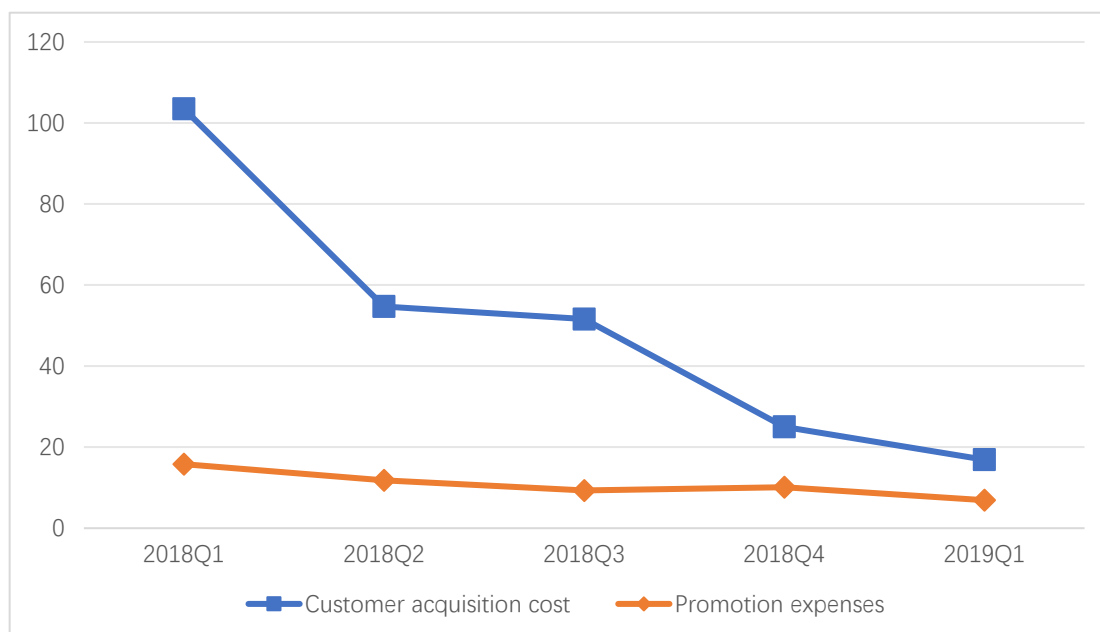


Figure 3-1. Cost situation of acquiring new users of Luckin Coffee

While the high-subsidy model can attract customers, the customer acquisition strategy that mainly relies on "free coffee" and coupons makes customers price-sensitive and may not spend money when there is no discount. When the price changes too much, consumers will feel that it is "not cost-effective" and refuse to spend. Luckin's subsidy model has the phenomenon of "killing ripeness", with old customers buying more frequently but fewer discount opportunities, and the price is more expensive, and only new users often enjoy discounts. As a result, many new customers are lost after enjoying free coffee, and the best customers are the first ones. As the number of customers increases, the proportion of non-core customers increases, and loyalty decreases. High subsidies and promotions lead to limited profitability and are unsustainable business practices. The contradiction between lowering a discount or raising a price can lead to customer churn, prompting Luckin to consider financial fraud.

Secondly, half a month after the IPO of Luckin Coffee, CEO Qian Zhiya announced the strategic goal of opening a total of 10,000 stores in 2021. By the end of December 2019, Luckin Coffee had opened 4,507 directly-operated stores, adding nearly 3,000 new stores within a year, an increase of nearly 200%, and the number of stores surpassed Starbucks for the first time. But behind the rapid opening of stores, risks are also accumulating rapidly.

3.4. Exposure factor analysis

Systemic fraud usually originates from the original shareholders who have a controlling stake and who have control that can directly lead to financial fraud, such as circumvention of internal control mechanisms. This is the root cause of the anti-audit nature of financial fraud in systematically fictitious economic operations. This type of fraud can bring huge benefits to participating shareholders because of its low resistance and high concealment.

In the case of Luckin Coffee, the chairman of the board of

directors holds a number of important positions in the company and has significant decision-making power over business and management activities. Most of the company's senior management are from the Shenzhou team, which provides the basis for the collusion to commit fraud. Due to the asymmetry of market information and the incomplete information obtained by the demand-side, Luckin Coffee deliberately concealed important matters and failed to disclose financial information as required, resulting in untrue information disclosure. Management blocks the immediate delivery of messages, increasing the concealment of fraud. In addition, Luckin Coffee also falsified economic transaction information, such as store traffic, number of transactions, quantity of goods and net selling price, and used related parties to transfer funds to fabricate economic business. The authenticity and validity of these raw data are difficult to verify, making it difficult for audit institutions to identify, thus blurring the professional judgment of auditing.

Shorting is a common form of trading in the capital market, which refers to selling stocks when the stock price is expected to fall, and buying the same number of shares when the actual stock price falls, so as to make a profit. Muddy Waters Company is to gain benefits by being a short stock company. Since 2009, Muddy Waters has continuously shorted Chinese companies in overseas capital markets, such as Oriental Paper, Lunuo Technology, Huishan Dairy, etc., and its short-selling reports have caused the stock prices of these companies to plummet, and they have been suspended from stock trading or ordered to delist. This shows that short-sellers have an important role to play in exposing financial fraud.

Short-sellers usually start with the company's financial fraud, mainly to be suspicious of the data related to the company's profits. Because operating profit is closely linked to the daily operation of the enterprise, any link in the profit process may become an attack point for short sellers. As a result, doubting profit-related data becomes the most common

tactic used by short sellers. Luckin Coffee's recent financial, performance and stock price indicators have risen abnormally in two months, rising by more than 160%, which is also the reason why Muddy Waters institutions are highly concerned, which in turn has led to the gradual exposure of financial fraud.

4. Risk Management and Control Suggestions

4.1. Strengthen business ethics education for personnel

Business ethics plays an important guiding role in motivating employees to pursue personal interests while respecting the overall interests of the company and the sustainable development of society. In the absence of business ethics, corporate managers and employees will only consider their own interests, excluding corporate stakeholders such as investors, creditors and suppliers, or even whitewash the financial statements for personal gain. At present, most companies still do not pay attention to business ethics education. Therefore, it is necessary to strengthen the education of business ethics for enterprise managers and employees, and managers and other employees should also regularly reflect on themselves and apply them to their daily work to weaken the idea of financial fraud.

4.2. Control the rhythm of capital operation

Luckin Coffee's development strategy is to expand rapidly, rapidly increasing the number of offline stores through multiple rounds of financing, with significant initial results, but losses in the later stage. Rapid expansion has led to an increase in the cost of rent, employees, etc., difficulties in capital turnover, an increase in financing needs, and difficulties in recovering costs.

When choosing an expansion or contraction strategy, enterprises should adjust it according to the overall strategy, operating conditions, and capital stock. Luckin Coffee should slow down its expansion and shift to targeted expansion, strictly control store opening standards, close stores that are not operating well, balance expansion and contraction, and make reasonable use of funds to achieve sound operation.

Luckin Coffee's business model has driven its rapid development, but there are huge hidden dangers, such as false sales and financial fraud. New retail enterprises need to break through the defects in the operation process one by one, continue to optimize the business model, and base themselves on a sound business strategy to achieve sustainable development.

4.3. Improve the core competitiveness of products

The core of the business model advocated by Luckin is technology-driven. However, the current technology investment is mainly focused on self-operated apps and mini programs, although this has played an important role in expanding business volume and simplifying business processes, but no real breakthrough has been achieved in product research and development, especially coffee research and development. In the current fierce competition between China's coffee industry and the food and beverage industry, Luckin not only faces strong competitors such as the long-established Starbucks, but also coffee brands such as Cudi and Lucky Coffee with similar marketing positioning. In addition,

the epidemic and counterfeiting incidents have also had a big impact on the development of Luckin.

As the market evolves, so do consumers' motivations to buy. In the past, consumers bought out of need, but now they buy because they like. Therefore, the product must be able to surprise and shock the consumer. As a coffee-focused company, Luckin needed to further enhance the competitiveness of its core products and refocus its previous efforts on marketing and financing to the product itself. This requires companies to make the necessary investments in product research and development and technological innovation, and to maintain customer loyalty and continuously improve their core competitiveness with unique and exclusive products and services, as well as other value-added product lines.

Since its establishment, Luckin Coffee has been positioning the target consumer group as a young white-collar class, and collecting user data through the APP to provide data support for subsequent operations. However, from the actual business situation, the customer retention rate is still low, which indicates that the precision marketing strategy still needs to be improved. In order to improve customer retention, on the one hand, we need to identify core value customers. This can be done by analyzing customer retention statistics, tagging customers in the background, and classifying customers who are habitual consumers as core value customers. Then, we can consider pushing differentiated advertising content to different users on the app side. By conducting in-depth research on the consumption habits and product preferences of core value customers, we can continue to stimulate consumption and maintain customer loyalty by delivering customized ads that match their habits. For new customers, we can push ads that focus on brand connotation and coffee quality, providing them with reasons to choose Luckin Coffee. On the other hand, in terms of price strategy, we can use price preference and price discrimination to implement price differentiation. For users who are not sticky, we can offer greater discounts to stimulate them to buy at a lower price. In this way, we can attract more new users without compromising our core customer base, which can improve overall customer retention.

4.4. Innovate audit methods and strengthen fraud identification

In most cases, auditors focus primarily on the internal operations of the audited company and have little understanding of the industry environment in which they operate. In the case of Luckin Coffee, the company belongs to the retail industry. When conducting an audit, the auditor should comprehensively consider the market dynamics of the entire coffee industry and compare and analyze it with leading companies in the industry, such as Starbucks, to determine whether there are any anomalies in the operating conditions of Luckin Coffee. A further in-depth investigation of Luckin Coffee's supply chain, upstream and downstream, may reveal significant discrepancies between its actual suppliers and publicly available information, suggesting that the company may be inflating its earnings through related-party transactions.

For companies like Luckin Coffee, which are positioned in the new retail model, auditors should formulate corresponding audit strategies, paying special attention to key aspects such as online operation data and self-operated APP settings. Through an in-depth analysis of its business model,

auditors can assess its potential risks, especially fraud risks, thereby revealing the operational risks and potential fraud of listed companies, and providing guidance for subsequent audit procedures.

The traditional on-site observation audit method is limited by multiple factors such as manpower, material resources, and time, and it is difficult to conduct a comprehensive and in-depth verification of the audited unit. However, with the introduction of big data technology, auditors no longer need to use traditional sampling and data design methods, but can use the overall audit method, pay attention to the timeliness of the audit, and achieve real-time data review. This not only greatly reduces the workload of auditors in data collection and improves work efficiency, but also accurately analyzes and predicts enterprise data through big data technology, reduces the risk of data loss or deviation, and ensures the authenticity of audit conclusions.

As a distributed structure, the accuracy and completeness of information between nodes depends on the common verification of other nodes. Therefore, in the block chain, information falsification is almost impossible, which effectively avoids the risk of financial fraudsters tampering with data. If block chain technology is applied to Luckin Coffee's audit process, all order data, transaction details, and financial information will be processed through the block chain. Any data anomalies due to "order skipping" are immediately identified, which greatly increases the difficulty of inflating the order volume. Therefore, block chain technology is very suitable for application in the field of auditing, especially for those enterprises in the new economic format based on Internet technology and new retail models.

5. Conclusion

This paper selects the financial fraud incident of Luckin Coffee exposed by Muddy Waters Company in 2020 as a research case, and takes the financial fraud as the starting point to conduct a comprehensive and in-depth analysis of the business model of Luckin Coffee. Relying on Internet technology, Luckin Coffee has realized the effective integration of online and offline, providing consumers with one-stop production and sales services. However, in the case of financial fraud, the company took advantage of the information asymmetry in the business model, tampered with online business data, and used improper means such as inflating revenue, inflating expenses, and conducting false transactions with related parties, which brought huge economic losses and reputational risks to the company and investors.

In order to analyze the incident in depth, this paper analyzes in detail from four dimensions, including greed, opportunity and exposure, under the guidance of the fraud risk

factor theory, and clarifies the fraud risk factors of Luckin Coffee. At the same time, combined with the characteristics and operation of Luckin Coffee's new retail business model, this paper points out some problems, such as insufficient competitiveness of products, weak brand effect, declining profitability due to blind expansion, imprecise marketing strategy, and low customer stickiness.

On the basis of in-depth analysis, this paper puts forward specific suggestions for the future business development of Luckin Coffee. Through the study of the financial fraud case of Luckin Coffee, it aims to provide practical guidance for the company's steady operation and innovative development in the future, and also provide a certain reference value for optimizing and improving the new retail business model. In addition, this paper also hopes to play a certain role in promoting the healthy development and improvement of China's capital market.

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