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# **The Crisis Management of Small Businesses in Modern Conditions**



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## **Abstract**

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The purpose of this study commissioned by Kozesk Mineral Water Factory was to develop anti-crisis strategies for small businesses in modern conditions. The main objective was to develop anti-crisis strategies for small business enterprises for the client company of LLC Kozelsk Mineral Water Factory. The study was based on the company's financial performance from 2015/2018 to 2020.

The results revealed that the probability of bankruptcy is minimal. Relevant strategies are cost reduction strategies and reorganization strategy; thus, the focus should be on new product development, product rationalization, and entering a new market. The need to increase plant capacity has emerged. There is demand, however not enough labor.

The financial model and strategies can be applied by any small business. Especially for this purpose, there were taken general accounting indicators according to European standards and peculiarities of taxation of small business from the Federal Tax Service of the Russian Federation. Crisis management strategies are additionally universal for all small businesses.

The given financial model can be modified and used for calculations of a new small business. Consequently, the entrepreneur can know in advance about the costs and profitability of the new business.

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## **1 Introduction**

The reason for choosing crisis management for small business is experience in this field. A large number of friends of entrepreneurs have asked for a forecast and evaluation of the financial activity of their companies. In the COVID-19 pandemic, many of them experienced a crisis. Small business is the basis of the national economy and shows the level of economic development of the country. Therefore, the global epidemic crisis has had a doubly strong impact on the economic situation of small businesses. However crisis management is always relevant because of the rapidly changing conditions in today's world. Not all companies are ready to quickly adjust to them and start experiencing a crisis.

For a quick crisis adaptation, it is necessary to understand the basics of crisis management of a particular company. Crisis strategies are developed based on individual characteristics. These characteristics include the peculiarities of the life cycle stage of the company, the market of activity, financial and noneconomic resources. Proper resource allocation can be achieved with the help of financial models. This allows increasing the efficiency of the enterprise, because small companies have very limited resources. That is why it is so important to use economic analysis in the development of small business crisis strategies.

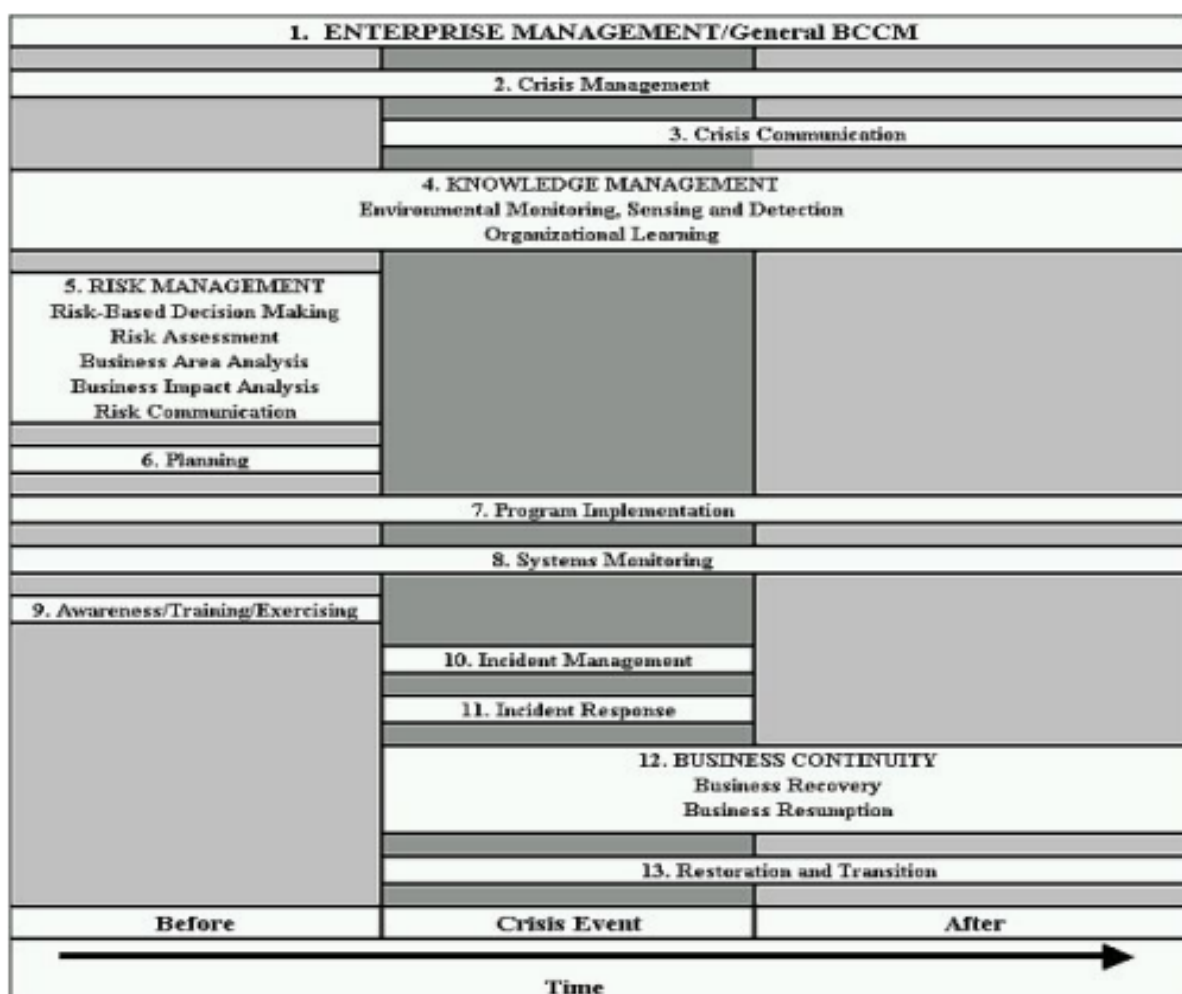
This thesis develops crisis strategies for a small business using the example of the Russian company "Kozelsk Mineral Water Factory" LLC. This company is engaged in the production and wholesale of soft drinks. On the basis of the financial statements of the company the author's financial model is made. Analyzing the financial indicators of the company, we develop crisis strategies. These strategies will be offered as goals of crisis management for "KMWF".

## 2 Theoretical Foundations of Crisis Management in the Small Business Organization

### 2.1 Concepts, principles and functions of crisis management in an organization

Crisis management is part of a large enterprise management system or a Crisis and Business Continuity Management System. This covers the entire temporary process of the crisis: avoiding, overcoming the crisis and restoring the enterprise after it (Shaw, 2015, 11). Figure 1 shows the hierarchy of various management elements by number and the differentiation of the time period of the crisis.

**Figure 1.** *Business Crisis and Continuity Management Framework (Shaw, 2015, 11)*



**Crisis Management** is coordination of efforts to control a crisis event consistent with strategic goals of an organization. Although, generally associated with response, recovery and resumption

operations during and following a crisis event, crisis management responsibilities extend to pre-event mitigation, prevention and preparedness and post event restoration and transition. (Shaw, 2015, 12)

The main result of crisis management is the complete restoration of the financial capacity of the enterprise. Crisis management performs a set of the following **tasks** to achieve this goal:

1. Timely analysis and identification of the company's weaknesses;
2. Preparation of the company for the crisis (urgent capital replenishment, reduction of internal and external costs, clear planning of raw material purchases, etc.);
3. Creation and implementation of anti-crisis strategies;
4. Active repayment of debts (payments to suppliers, employees, creditors);
5. Avoiding bankruptcy and liquidation of the company, if necessary;
6. Restoring economic stability and market position;
7. Organization of the company's activity after the crisis.

The concept of **crisis** has different backgrounds. In medical Latin, the word comes from the Greek "krisis" and means "decision". The general concept of "decisive moment" dates back to the beginning of the seventeenth century. In English it means a change for the better or for the worse, in other words it is a turning point that depends only on the manager. (Zamoum, 2018)

At the stage of all these tasks the potential of the manager, the speed of his reaction and the depth of his knowledge of the business environment are important. The main difficulty in applying crisis management is the degree of neglect and depth of the crisis. Indicators for the first and easiest stage of a company's crisis are a drop in sales and profitability. It means that the company loses its main economic flow. At this stage it is enough to cut production costs and increase productivity. The second stage of the crisis is characterized by the company working "in deficit", in other words, costs exceeding the amount of profit. This stage is a turning point and the most successful for the introduction of new business development strategies. The future of the organization depends on the success of management decisions at this stage. Either the company reorganizes or withdraws from the market. If at this stage it was not possible to lead out the

company of the crisis, then the third deep crisis stage begins. The company uses up its resources and reserve funds. All income is allocated only to repay external costs, if there is any profit at all. At this stage, exiting the market is extremely unprofitable without alternative sources of income. There are situations when the crisis of one entrepreneur's business leads to a decline in the productivity of another. This is most often characteristic of business diversification. The last and most dystopian stage of the crisis is the declaration of bankruptcy, i.e. the company is unable to conduct financial activities and loses its social status in the market.

The **essence** of crisis management lies in the following fundamentals (Kuzmanova, 2016, 257):

- Crisis can be expected, it can be caused and managed;
- The need to be prepared for the crisis;
- The crisis process must be mitigated;
- The solution to a complex crisis situation depends on the skills and experience of the manager;
- Crises can be managed up to a point;
- The exit from the crisis can be accelerated and the losses of the company can be minimized.

Each company has its own resources, capabilities and weaknesses. For each company they are unique. An objective assessment of the company's risks is the main key to the success of crisis management.

**Risk Management** is synthesis of the risk assessment, business area analysis, business impact analysis, risk communication and risk-based decision-making functions to make strategic and tactical decisions on how business risks will be treated – whether ignored, reduced, transferred, or avoided (Gregory, 2015, 12).

In contrast to crisis management, risk management focuses only on assessing, analyzing and minimizing the possibility of crisis. It is only a part of crisis management, however has the same object and subject of its activity. The **object** is the companies which have economic problems. The managers who have an influence on the crisis phenomenon are the **subjects**. The condition of the two management systems (Crisis Management and Risk Management) is risk. **Risk** is a fact of any company's existence, however a high degree of risk can easily destroy an organization.

However, minimal and moderate risks reduce the range of strategy choices. A strategy is a generalized model of action to achieve the goals set by coordinating and rationally allocating the resources of an enterprise. In other words, strategy is a set of actions aimed at ensuring the solvency and profitability of the company.

When a company is unable to make payments, there are two ways to proceed. The first is **bankruptcy**. **Informal bankruptcy** consists of deferring payments to its creditors. This is an effective way to avoid formal bankruptcy. The difficulty lies in the varying degrees of loyalty of creditors and the complexity of a company's capital structure, which directly depends on the size of the organization. It is easier for small businesses to obtain a postponement through negotiation. If, however, creditors are unable to grant a deferral, the company must go through **formal bankruptcy** proceedings. In this case, the company stops its existence and enters into an agreement to pay its debts. **Liquidation**-sale for bankrupt firm's assets (Brealey, 2001, 241). If the company has assets, they first pay the attorneys and financial managers who were involved in the bankruptcy transaction. Next, the payroll debt is paid to employees, suppliers, and government agencies. If there are no assets, a debt repayment plan is formed, usually by the creditor, and approved by the bankruptcy court.

An alternative to liquidation is company reorganization. **Reorganization** is restructuring of financial claims on failing firm to allow it to keep operating (Brealey, 2001, 241). In this case, the firm has time to restore viability. The obligation to develop a reorganization plan belongs to the debtor firm. The creditor has nothing to lose in any case. If the reorganization is successful, it will receive additional profits; in the worst-case scenario, it will receive dividends from the bankrupt firm's stock.

The choice between reorganization and bankruptcy of the company is determined by the value of the firm at the time of the crisis. If the value of the company is more expensive than the debts, then the company reorganizes and pays the debts. If it is worth less than the debts, the company is obliged to declare bankruptcy by court decision. In practice, creditors often become the new owners of the business, and the company continues to operate. However because of the complexity of the crisis situation, entrepreneurs often declare bankruptcy even with a high cost of the company. This allows them to avoid even greater losses and go out of business debt-free.

As it was mentioned before, we can conclude that crisis management is a comprehensive management system aimed at preventing and eliminating the economic crisis of the company, and the elimination of its negative consequences. Crisis is both a threat to the company's activity and an opportunity for further development, i.e., crisis has an ambivalent result: bankruptcy or adaptation and survival of the organization. Crises are difficult to predict and manage without risk management. Risk management is part of crisis management and its essence is to plan, assess and avoid the possibility of crisis. During the crisis stage, the company is obliged to rely only on internal factors. Ignoring risks completely cannot ensure the long-term success of the company on the market.

## 2.2 Anti-Crisis Management Features of a Small Enterprise

Small businesses are a major source of enrichment for the national economy and employment for the population. Entrepreneurs usually become members of the middle class with a regular income, certain skills, and knowledge in a certain field. Small businesses are characterized by a limited number of employees, the number of products produced, and the tax burden.

Schumpeter regarded entrepreneurship as a special gift, independent of a person's social background. **Entrepreneurship** is a personal characteristic of an individual to manage an enterprise at his own risk (Rofe, 2010, 24).

Therefore, every business owner is interested in its success. Often, the business owner is a director and manager in one person. This allows better control over the situation of business development. Additionally, due to the small number of staff, small businesses do not have the ability to maintain financial planning and strategy modeling departments. However due to the human factor, the entrepreneur may not have in-depth knowledge of accounting and financial reporting. Often, because of financial illiteracy, an enterprise begins to experience a crisis. In this case, the temporary hiring of crisis management specialists or ordering a financial model of the enterprise is relevant. The development of a crisis strategy is influenced by such features of small businesses as (Rofe, 2010):

1. Small number of owners. This contributes to the unity of the way to solve problems.
2. Some entrepreneurs are forced to develop a strategy on their own. This is due to the lack of large working capital and the economy of paying salaries to employees who specialize in the problem.
3. Because of the unity of management, there is a quick response time.
4. The small number of employees facilitates rapid delegation of responsibility.
5. A small product mix makes strategy development easier.
6. Small business is a major potential revenue stream to support large business.
7. Potential for growth to medium and large businesses.
8. The management of an enterprise depends directly on the experience of the manager.

9. The life span of a small business is shorter than that of a large business. This makes it easy to predict changes in the external market environment, demand, and strategic decisions.

**A strategy** is a model of the actions that are necessary to achieve the objectives and goals through the rational allocation of the company's resources.

The small business life cycle model has its own dynamics for each area of business. There are **4 stages of a company's life cycle**: birth, growth, maturity, and decline. Each stage is characterized by its own orientation strategies, which directly depend on the features of the cost structure and profit.

**Birth.** The first phase of the life cycle of the enterprise is characterized by the strategy of aggressive market penetration, quick formation of primary demand and reduction of the duration of this phase as much as possible. The enterprise demands high production costs, in spite of the big negative cash flows. Factors of success at this stage are formation of company brand and active informing consumers on the market.

**Growth.** The strategic orientation of this phase is to increase demand and market share, capturing the main part of the market. Production costs are reduced due to positive profits, which cover the main costs of the company. This phase is the most important because during this phase the company forms long-term relationships with suppliers, customers and improves its product. Due to the large number of sales, the price per unit of product can be reduced. It can additionally help to increase demand in an already saturated market.

**Maturity.** At this stage the company is forced to apply a strategy of maintaining and sustaining demand. The time period of this stage should be as long as possible. It is conditioned by financial stability and the possibility of business diversification. The company has the highest profitability, however profits have a tendency to decrease. A very popular example is franchising a firm or entering a new market sector.

**Decline.** A drop in product demand in the market provokes a company's crisis process. Indicators of this are diminishing profit perspectives, the need for product rationalization, optimization of this and the need to reduce internal costs. The most important decision for the company is the point of ending the existence of the company in the market for the sake of avoiding high costs.

In other words, crisis situations can arise at all stages of the company's life cycle, however most often they arise at the stage of decline. The time borders of each stage are additionally individual for each enterprise. These situations are directly influenced by changes in the competitive and economic environment, the sum of profits and costs. Therefore, it is so important to always keep financial records of the company.

The most common problems associated with the complexity of enterprise financial planning are as follows (Rofe, 2010):

- Lack of theoretical and practical knowledge of the sphere and business tools.
- High workload of small business managers.
- Lack of accounting literacy.
- Relatively new direction of financial planning.

As it was mentioned before, small business is the main economic pillar of the national economy of any developed and developing country. Enterprises of this type have a great potential for development. However, they additionally have big human risks. First of all, it is the lack of theoretical and practical knowledge of the entrepreneur and the lack of accounting literacy. That is why small enterprises are so prone to crisis situations. Any company goes through four stages of life: birth, growth, maturity and decline. They differ in the characteristics of the strategies used. A strategy is a set of rules for making decisions at a particular stage of an enterprise's life for the sake of achieving a set goal.

### 2.3 Small Business Crisis Management Strategies

If the company starts to feel crisis, it is necessary to increase the role of strategic flexibility in these conditions for financial reliability. In this case, the complexity of the structure of the organization and the conditions of the business environment can affect both positively and negatively the management activities (Bundy, 2017, 1671). In this case it is very important to choose the exact anti-crisis strategy of further activity of the company.

**Crisis strategy** is a decision-making model that optimizes an organization's performance in a downturn, reducing the possibility of bankruptcy.

The nature of the company's crisis activity changes from defensive to adaptive. The defensive type of activity is typical before a crisis situation begins. This approach corresponds to risk management and planning. Crisis management requires the acceptance of the crisis by the company and the development of strategies for the continued existence of the organization (Bundy, 2017, 1673 p).

Strategy in crisis management is a plan for restoring the company's performance. However having a strategy cannot provide a successful exit from the crisis or its avoidance. The strategy allows to soften the conditions of the crisis and to avoid bankruptcy. A classic strategy has its own time frame of relevance. This allows for shorter decision-making times and, if necessary, exits the market with the fewest losses. The methods used depend on the peculiarities of the chosen strategy. According to them, three basic crisis strategies are formed, which depend on the depth of the crisis stage of the company. These three strategies and their features are described in Table 1.

Cost reduction strategy	Turnaround strategy	Exit strategy
<ul style="list-style-type: none"> <li>• organizational changes;</li> <li>• financial strategies;</li> <li>• cost cutting;</li> <li>• reduction of assets;</li> <li>• profit increase.</li> </ul>	<ul style="list-style-type: none"> <li>• changes in pricing policy;</li> <li>• business reorientation;</li> <li>• development of a new product;</li> <li>• product rationalization;</li> <li>• focus on the target market and marketing.</li> </ul>	<ul style="list-style-type: none"> <li>• optimal use of investments;</li> <li>• timely exit from the market;</li> <li>• sale of business.</li> </ul>

**Table 1.** *Classification of crisis strategies (Rofe, 2010)*

**The specifics of the application** of these anti-crisis strategies will be described below.

In the first stages of crisis, there are 5 main types of **strategies to reduce the company's costs** in order to stop the decrease in profits:

- organizational changes;
- financial strategies;
- cost cutting;
- reduction of assets;
- profit increase.

In this type of strategy, the company focuses on the existing product and the process of creating it. The key to the success of the new strategy is clear and reliable financial reporting for previous periods. This will ensure the accuracy of future costs.

**The characteristics of a cost reduction strategy** are as follows:

1. **Organizational changes.** This consists of stimulating employee pay. Often this strategy is used to increase productivity and, as a consequence, profits.
2. **Financial strategies.** The problem of financial illiteracy, weak financial controls and illiterate allocation of company resources are the main causes of financial strategies. This includes three components:

- introduction of financial statements as a financial model;
  - changes in agreements with creditors on the terms of cooperation;
  - forecasting of sales volumes by product classification.
- 3. Cost cutting.** To increase profits, it is necessary to significantly reduce internal costs and increase cash flows in a positive direction. This is the most common strategy of crisis management. In other words, there is a reformulation of the organization's budget. If budgeting has not been carried out before, it will be enough to make a balance forecast, cash flow budget, income and expenses budget, accounts receivable and accounts payable, consumption of raw materials and supplies.
- 4. Reduction of assets.** It signifies the concentration of production on narrow market sectors. It additionally refers to obtaining the maximum available benefit from the company's assets as an additional source of income in a crisis situation.
- 5. Profit increase.** The essence of this strategy is to quickly generate income. In the short term, this can be achieved through the following principles:
- strengthening management control;
  - planning the use of resources;
  - clear time management;
  - payment of accounts receivable on time;
  - increase in the number of sales.

**Turnaround strategies** are to reduce costs, reorganize the distribution system of goods and simultaneously develop new ones. Turnaround strategies consist of the following set of actions:

- changes in pricing policy;
- business reorientation;
- development of a new product;
- product rationalization;
- focus on the target market and marketing.

The meaning of these steps is as follows (Rofe, 2010):

1. **Changes in pricing policy.** This strategy is adopted when extremely necessary. For example, it is an excellent way to increase sales by lowering the price. However, this method is effective only if there is a known elasticity of demand for a certain product category. A company with a brand backed by marketing support can afford a price increase. However, before doing this, the company must predict the demand for the product in the market and the reaction of competitors.
2. **Business reorientation.** This concept is to focus on a specific market segment. For this process to be successful, it is necessary to analyze why the product is in demand, the potential for revenue and expense growth, the competition and the possibility of segmentation, individualizing the strength of the competitive advantage.
3. **Development of a new product.** This concept is used in the case of loss of competitive ability of the company in the market, which is associated directly with the loss of product potential. Most often, new markets or the latest product or development are used.
4. **Product rationalization** is appropriate when segmenting the market and customer demands. The point of the concept is to identify the most profitable and the most unprofitable products in order to estimate the costs of the company.
5. **Focus on the target market and marketing.** This strategy is to increase sales through the active introduction of advertising.

When bankruptcy threats are high, **exit strategies** are applied. The goal is to reduce the damage as much as possible. The methods to achieve this goal are to reduce costs as fast as possible and to sell the company's assets. This can be the closing of an interest deposit in a bank or the sale of part of the business (franchise agreement). However, if the business is not profitable, it is very important to exit the market as soon as possible to save more resources. This will allow you to avoid debts after declaring bankruptcy and to pay off your creditors. It is in addition possible to sell the business or transfer property to creditors against the debt.

A company's success in choosing strategies depends on accurately answering four questions:

- What is the scale of the loss?
- How to prepare for further actions?
- How to increase profits?
- What strategies to choose for the changing situation?

Combining everything, determine the dependence of the choice of crisis strategy on a number of different reasons. Firstly, it is the nature of the manifestation of the crisis (the causes of occurrence, the speed of development, the scale of damage). The second reason is the strengths and weaknesses of the company. The third reason is the crisis situation at the level of the whole industry (competitiveness, the number and possibilities of competitors, the size of the market and its development).

### **3 Assessment of Crisis Phenomena Development LLC "Kozelsk Mineral Water Factory"**

#### **3.1 Organizational and economic characteristics of the enterprise**

KMWF LLC was founded on December 31, 2002 in the city of Kozelsk, Kaluga Region (rosstat.com). Full name is Kozelsk Mineral Water Factory Limited Liability Company. Selected the simplified system of taxation. This system is available to both individual entrepreneurs and organizations. The rate of profit for this tax is 15% (nalogru.com). The conditions are income of not more than 150 million rubles a year and the number of employees is not more than 100 people. The average number of employees is 38 according to the Federal Tax Service as of December 31, 2019. The authorized capital is 1,773,000 rubles. The main activity is the production of non-alcoholic drinks, production of bottled mineral water. The company additionally has the right to manage its own production building, transportation of goods, wholesale of consumer goods of basic necessities. The organization is active according to the Unified Registry of Legal Entities on May 15, 2021. The main products are mineral water with and without oxygen. It is filled into three different bottles: 0.5, 1.5 and 5 liters. The bottles have a religious design in the form of a church tower with a dome (Appendix 2, Picture 1). This is due to the close proximity to the Orthodox monastery Vvedenskaya Optina, which was founded in the 15th century. This attracts many tourists and promotes the active sale of products on the church area. This can be both an advantage and a disadvantage for the company due to the subjective attitude to religion in modern society.

The main sales markets are retailing companies of large chains. For example, the chain of supermarkets "Pyaterochka" is part of X5 Retail Group and has a high number of shops in central Russia. There may be 3-5 retail facilities per small town of 10 thousand people. The main competition to "Pyaterochka" is "Magnit". This is the same food retail chain. In June 2019, KMWF entered into an agreement to supply its products to Magnit. The company supplies one third of its products to small private retail outlets, the regional government, and Optina Pustyn. The sales territory is limited to the Kaluga region. The bottled water market is very specific. There are three forces influencing the purchase: marketing offers, package design, and price. The Kozelsk Factory focuses on selling products in the low-price category. The average price of 0.5 liter of water is 30 rubles. Kozelsk's water costs 18 rubles (egrul.com). The main competition in the market is

"BonAqua" of American production and "Pine Forest", which is produced in the neighboring Moscow region. The first competitor has its success due to the popularity of the brand and quality work of marketers on advertising and product design. The second competitor has a convenient liter and bottle shape. It is a rectangular shaped 1-liter bottle. (See Appendix 2, Picture2) The price of Moscow water is only 5 rubles higher. In this situation, the product has no demographic features. Market segmentation is carried out only by geographic, psychological and behavioral principles. Geographical segmentation of the market is sales on the territory of Kaluga region. Psychological principle can work under the influence of religious orientation, lifestyle of the buyer (some people prefer juice or soda) and belonging to a class with low incomes.

The main motivation for buying bottled water is the poor quality of running water. In some cities, drinking water from the tap can lead to serious health problems. This situation is complicated by plumbing repairs in large cities and small budgets in small towns. A water filtration system is not available to everyone. Therefore, bottled water is a popular product, especially during the hot seasons of the year. All of these characteristics can be both positive and negative for the company. Strategic planning method will be used to systematize the information. **SWOT-analysis** allows you to evaluate the internal and external potential of the company:

<b>Strengths</b>	<b>Weaknesses</b>
<ul style="list-style-type: none"> <li>- No obvious signs of a one-day company</li> <li>- The authorized capital more than most legal entities</li> <li>- Long period of operation on the market (18 years)</li> <li>- Not included in the register of unscrupulous suppliers</li> <li>- Licenses obtained</li> <li>- No debts on executive process</li> <li>- Financial reports from Rosstat are available</li> <li>- Own delivery</li> <li>- No negative impact on nature</li> <li>- Work in the period of COVID-19</li> <li>-Low price of the goods</li> <li>-Verified suppliers</li> </ul>	<ul style="list-style-type: none"> <li>- Resource exhaustibility</li> <li>- Losses in the last reporting period (-3,007,000 rubles)</li> <li>- Ageing of personnel</li> <li>- Regional sales market</li> <li>- Low level of digitalization of production</li> <li>-Lack of a company web-site</li> <li>-High production capacity/lack of personnel</li> <li>-Lack of advertising</li> </ul>

Threats	Opportunities
<ul style="list-style-type: none"> <li>- COVID-19 pandemic</li> <li>- High competition</li> <li>- Seasonal demand for products</li> <li>- Environmental risk</li> <li>- Difficulties in obtaining licenses</li> <li>- Religiousness of the product</li> </ul>	<ul style="list-style-type: none"> <li>- Packaging redesign</li> <li>- Ecological strategy of plastic recycling</li> <li>- Transition to full self-production</li> <li>- Government support</li> <li>- Water delivery to offices (20 liters)</li> </ul>

**Table 2.** *SWOT Analysis of KMWF*

### **Strengths- Opportunities**

The strengths and capabilities of the company are examined to analyze the line of strength. The company conducts its activities purely. The company has a high level of reputation due to 18 years on the market, large authorized capital, and availability of current licenses. The company owns a factory, a delivery system and warehouses for product storage. The product is extracted from the ground, only material for packaging is purchased. Plastic recycling can be established as a long-term environmental strategy. In addition, this strategy will cut production costs at least in half. This is a completely new direction for Russia. Since 2017 they have been trying to set up recycling in central Russia, however without success. The government allocates part of the budget, however people do not agree to the location of recycling plants near population centers. Although this production is 99% safe for the environment. This path would allow for a transition to almost self-sufficient production. Another potential is the redesign of the packaging, which could greatly increase sales.

### **Weaknesses- Opportunities**

The improvement line consists of the company's opportunities and weaknesses. The company has great development potential. For example, increasing the level of digitalization of different departments of the company, potential jobs for young professionals, product redesign, entering a new market, environmentally friendly production and recycling.

### **Strengths- Threats**

For protective strategies, the company's advantages and uncontrollable external threats are taken into account. The biggest threat of 2020 and 2021 was COVID-19 pandemic. The company continued to operate because it manufactures essential products. It increased the company's revenue, however there were high risks of personnel illness. Disease of subspecialists is a major threat to the company because of the small number of personnel. For example, illness of a lab worker could jeopardize a new license or jeopardize the results of an inspection. A product's connection to religion can affect sales results both positively and negatively. Despite the prevalence of Orthodoxy in central Russia, some young people prefer not to identify themselves with this segment. Additionally, the younger generation tends to buy trendy products even at an increased price. Low demand and competition are the main threats to the company. This is compensated for by its own delivery service.

### **Weaknesses- Threats**

The main claims of the company can be identified from the threats and weaknesses of the company. The most devastating risk is depletion of the natural resource. The well pressure has never dropped during the entire existence of the plant. However, natural risks are the most unforeseen. The only effective solution is constant control of natural factors. Seasonal demand makes the demand exceed the production capacity 6 times. The company has to hire temporary workers during summer time because of the hot weather and high demand for its products. The connection with the religious and historical spheres does not allow the enterprise to enter a new market. There is no awareness of customers about the history of the product, its design (lack of advertising).

The company has great opportunities to develop its operations. Environmental strategy, digitalization of the business, and product redesign are important factors for long-term success. However, there are big external threats (competition, water well shutdown, poor product quality) and internal threats, which are closely related to the company's economic activity.

### 3.2 Assessment of the financial condition of the enterprise

To analyze the financial condition of LLC Kozelsk Mineral Water Factory it is necessary to consider the main indicators in dynamics for 2 years in modern conditions. Table 3 will show the data of income, costs, profit, capital and profitability of the company.

Name of position	2019	2020
<b>Income</b>	44 233 000 rub	43 937 000 rub
<b>Costs</b>	- 47 240 000 rub	- 44 973 000 rub
<b>Profit</b>	- 3 375 000 rub	- 1 414 000 rub
<b>Capital</b>	22 998 000 rub	21 238 000 rub
<b>Profitability</b>	- 14,7%	-6,7%

**Table 3.** Data of income, costs, profit, capital and profitability of the company (rosstat.com)

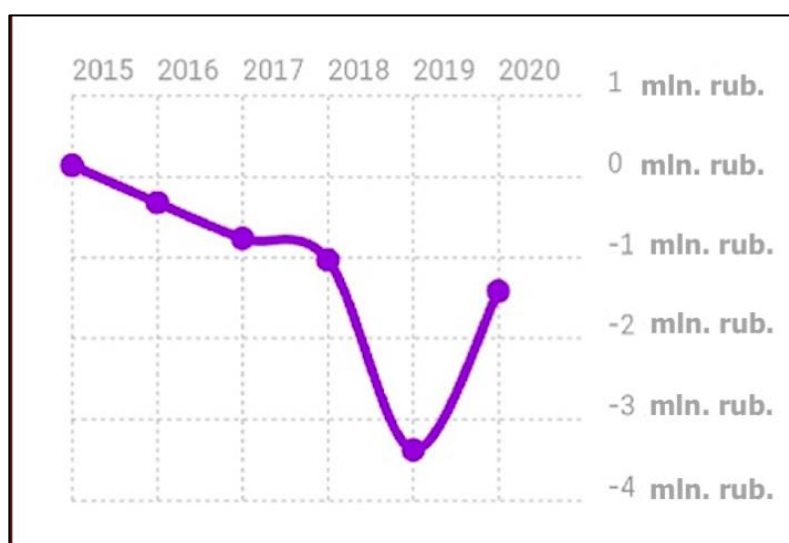
Despite the fact that the company lost 1 million rubles in revenue for 2020, it was able to take the company out of the loss by 2 million rubles. This improved product profitability by about half in one year. Given the difficulty of the time period to improve profitability, the company has a negative cash flow of revenue. The revenue trend is detailed in the Figure 2.



**Figure2.** KMWF's revenue from 2015 to 2020 (rosstat.com)

Visually, the company made great strides in revenue for 2018. Of course, this was achieved by purchasing personal delivery trucks and reducing external costs. Additionally in 2018, the company signed new trade contracts with the Magnet grocery store chain. However, the performance reached this level due to the ruble devaluation process. The weakening of the Russian currency was influenced by several factors. In the summer of 2018, there was a sharp fall of indices in the U.S. market. Due to the influence of the dollar on the ruble, the dynamics quickly spread to Russia. In August 2018 alone, the dollar will increase by 11%. This dynamic has not been tracked since the annexation of Crimea to the territory of the Russian Federation in 2014. The collapse of oil in addition had a huge impact. Diesel fuel became as cheap as possible, however the quality of this product decreased sharply. Processing a unit of the oil product cost more than a barrel of oil. As a result, half of the company's revenue is the result of the 2018 crisis.

Of course, the crisis additionally affected the company's profits. For 2019 it decreased by 3,375,000 rubles (Figure 3). The conditions of the crisis were exacerbated by COVID-19. An acute shortage of labor and low productivity did not allow the company to create enough products. However the company quickly rehabilitated itself with regional support. The company began actively recruiting young staff. These were students for the summer and professionals on a full-time basis. Production capacity and profits were growing. Demand for products was high, especially between May and October.



**Figure3.** KMWF's profits from 2015 to 2020 (rosstat.com)

The company's equity decreased naturally under the influence of the ruble devaluation (Figure 4). Large investments were made in the delivery system.



**Figure4.** KMWF's equity from 2015 to 2020 (rosstat.com)

Summarizing all, it is possible to assess the complexity of the impact of the national crisis and macroeconomics on the company. The results of the economic analysis are the basis for the application of the company's productivity improvement strategy.

### 3.3 Assessment of the Development of Crisis Phenomena and Bankruptcy Probability of the Enterprise

Before applying crisis strategies, it is necessary to estimate the probability of bankruptcy of the company. The Taffler's model is used to determine this probability. (Brealey, 2001) It is based on the sum of coefficients on the main economic indicators of the enterprise.

$$Z = 0,53 \frac{-1\,414\,000}{3\,600\,000} + 0,13 \frac{8\,860\,000}{3\,600\,000 + 0} + 0,18 \frac{3\,600\,000}{20\,800\,000} + 0,16 \frac{43\,937\,000}{20\,800\,000} = 0,5$$

The following economic indicators of the enterprise(*rosstat.com*) are used in the formula:

1. 1,414,000 - profit from the sale of products
2. 3,600,000 - short-term liabilities
3. 8,860,000 - sum of current assets
4. 0 - total long-term liabilities
5. 20,800,000 - value of assets of the enterprise
6. 43,937,000 - sum of proceeds

A score of 0,5 indicates a low probability of enterprise bankruptcy.

The result of bankruptcy forecasting by the Taffler's model showed irrelevance of the strategy of declaring bankruptcy of Kozelsk Mineral Water Factory by economic indicators for 2020.

#### 4 Development of ancrisis management program for Kozelsk Mineral Water Plant LLC

##### 4.1 Determination of the Main Directions for Crisis Management Improvement

To determine the actual areas of improvement in the crisis management of the enterprise it is necessary to analyze the accounting statements, the amount of assets, the budget of income and expenses and cash flow budget. The system of these financial indicators is a financial model. The goal is to analyze existing indicators and forecast future ones. All financial indicators are obtained from official databases: Rosstat and Federal Tax Service data.

Indicator name	31.12.2015	31.12.2016	31.12.2017	31.12.2018	31.12.2019	31.12.2020
	ASSETS					
Material non-current assets	30 530 000	28 564 000	24 186 000	20 801 000	15 895 000	17 505 000
Stocks	27 000	27 000	1 005 000	3 611 000	3 388 000	3 946 000
Cash and cash equivalents	45 000	78 000	379 000	50 000	822 000	365 000
Financial and other current assets (including accounts receivable)	1 451 000	1 492 000	1 424 000	5 198 000	3 592 000	3 641 000
<b>BALANCE</b>	<b>32 053 000</b>	<b>30 161 000</b>	<b>26 994 000</b>	<b>29 660 000</b>	<b>23 697 000</b>	<b>25 457 000</b>
	LIABILITIES					
Equity and reserves	31 926 000	30 160 000	26 993 000	27 040 000	22 998 000	21 238 000
Short-term debt	0	0	0	0	0	3 595 000
Accounts payable	127 000	1 000	1 000	2 620 000	699 000	624 000
<b>BALANCE</b>	<b>32 053 000</b>	<b>30 161 000</b>	<b>26 994 000</b>	<b>29 660 000</b>	<b>23 697 000</b>	<b>25 457 000</b>

Table 5. Balance sheet from 2015 to 2020 (rosstat.com)

An important indicator for assessing the profitability of production is the autonomy and liquidity ratios. (Table 6) The amount of assets depends on them. Net Assets do not include debts of the founders. This is necessary for the transparency of the already existing financial situation. Today, the company is obliged to increase the size of fixed assets for solvency.

Financial Indicator	31.12.2015	31.12.2016	31.12.2017	31.12.2018	31.12.2019	31.12.2020
<b>Net assets</b>	31 926 000	30 160 000	26 993 000	27 040 000	22 998 000	21 238 000
<b>Autonomy ratio</b>	1	1	1	0,91	0,97	0,83
<b>Liquidity ratio</b>	0,6	105	1384	1,4	6	1

**Table 6.** Net assets, autonomy ratio, and liquidity ratio from 2015-2020 (rosstat.com)

In terms of autonomy, the company is able to operate independently without the use of assets. The normal indicator is 0.5 and above. In 2015, 2018 and 2020 the liquidity ratio deviates from the norm by 1.5-2 coefficients higher. The problem is covering current liabilities. The solution is to reduce accounts payable and decrease current assets.

The Income and Expenditure Budget Statement is presented by year (2015-2020) in accordance with the RF Ministry of Finance Order No. 66. This is mandatory for all enterprises that do business (Table 7).

Indicator's name	2015	2016	2017	2018	2019	2020
<b>Revenue</b>	11 530 000	10 261 000	15 210 000	46 982 000	40 992 000	42 598 000
<b>Expenses</b>	-11 260 000	-10 094 000	-15 540 000	-47 704 000	-44 697 000	-43 911 000
<b>Other income</b>	119 000	0	0	778 000	3 241 000	1 339 000
<b>Other expenses</b>	0	0	0	-714 000	-2 543 000	-1 062 000
<b>Income taxes</b>	-248 000	-487 000	-432 000	-369 000	-368 000	-378 000
<b>Net profit (loss)</b>	141 000	-320 000	-762 000	-1 027 000	-3 375 000	-1 414 000

**Table 7.** Income and Cost Budget 2015-2020 (rosstat.com)

A company's profitability is affected by earnings before interest and taxes (EBIT):

Financial Indicator	2015	2016	2017	2018	2019	2020
<b>EBIT</b>	389 000	167 000	-330 000	-658 000	-3 007 000	-1 036 000
<b>Return on sales</b> (profit on sales in each ruble of revenue)	2,3%	1,6%	-2,2%	-1,5%	-9,0%	-3,1%
<b>Return on equity</b>	0%	-1%	-3%	-4%	-13%	-6%
<b>Return on assets</b>	0,40%	-1%	-2,70%	-3,60%	-12,70%	-5,80%

**Table 8.** EBIT from 2015 to 2020 (rosstat.com)

The problem of a low EBIT ratio is achieved by increasing the company's productivity and sales. The Cash Flow Budget is the basis of the company's financial management. All data in the Table are presented in thousands. It is possible to note the growing dynamics on the purchase of raw materials for the year 2020 compared to 2019. Due to this the company increased its profit by 2 million rubles for 2020.

Indicator name	2020	2019	2018
<i>Cash flows from current operations</i>			
Sales of products, goods, works and services	43 820	44 960	43 593
Lease payments, license fees, royalties, commissions and other similar payments	0	0	0
Other income	3 710	3	3 313
<b>Income (total)</b>	<b>47 530</b>	<b>44 963</b>	<b>46 906</b>
Payments to suppliers for raw materials, works and services	-33 240	-27 695	-32 410
Salaries of employees	-9 567	-9 670	-9 896
Corporate income tax	-368	-422	-374
Other payments	-4 812	-6 404	-4 555
<b>Payment (total)</b>	<b>-47 987</b>	<b>-44 191</b>	<b>-47 235</b>
<i>Cash flow balance</i>			
Cash flow balance for the reporting period	-457	772	-329
Cash balance at the beginning of the period	822	50	379
Cash balance at the end of the period	365	822	50

**Table 9.** Cash flow budget (rosstat.com)

According to the results of the financial model, the company should maintain the sales dynamics as in 2020. It will not be possible to reduce internal costs, due to the capacity of the plant's productivity. The absence of accounts payable is a huge potential for the company during the crisis.

## 4.2 Cost-Effectiveness of the Proposed Strategies

Based on the financial model, probability of bankruptcy, company potential, and market characteristics, **cost reduction and turnaround strategies** will be applied. An exit strategy is not relevant based on Taffler's model of the company's probability of bankruptcy. The company has minimal risk of bankruptcy. An efficiency matrix is used to evaluate the strategies:

	Economic indicators to apply	Effectiveness
<b>Cost reduction Strategy</b>	<ul style="list-style-type: none"> <li>• Increase in profit (- 1,414,000 rubles)</li> <li>• Decrease in assets (17,505,000rubles)</li> </ul>	<ul style="list-style-type: none"> <li>• 80% efficient (in conditions of increased plant capacity)</li> <li>• 40% efficient (unstable liquidity ratio)</li> </ul>
<b>Turnaround Strategy</b>	Maximally reduced internal costs	90% efficiency in the case of creating a new product position and building a long-term relationship in a new market
<b>Exit Strategy</b>	0.5 Taffler coefficient	Inefficient (the probability of bankruptcy is minimal)

**Table 10.** *Efficiency matrix*

### **Cost reduction strategy**

The first step is to increase the number of sales or maintain a growth trend. The company needs to plan in advance for high seasonal demand for products and take into account the low capacity of productivity. The purchase of materials must be made on time and paid for immediately. It is also necessary to keep clear control of product sales. However, it will not be possible to maximize sales in an environment of limited productivity. This requires a turnaround strategy.

The second step is the reduction of assets. The liquidity ratio is unstable and therefore it is necessary to keep a monthly report of all financial indicators. However this is not a necessary step of the crisis strategy this year.

**Turnaround Strategy**

The company has a huge potential for development. It is possible to increase the price of a product only after redesigning the packaging or creating a new product position. The development can be combined with entering a new market segment - offices. Bottled water of 20 liters is excellent to ensure long-term demand. It is possible to do with the current financial performance. Perhaps you should reorganize the distribution system of goods. It is much more profitable to sell wholesale to large retail chains rather than to private stores. The main components of this strategy are: redesigning, changing the pricing policy, entering a new market, and changing the sales system.

## 5 Conclusion

The aim of this work was to develop crisis strategies for small business enterprises, using "Kozelsk Mineral Water Factory" as an example. On the basis of SWOT-analysis of the company, sales market and financial statements the financial model was created and two working strategies for the enterprise "KMWF" were developed. According to the results of the study the following practical conclusions were made:

- The theory of probable bankruptcy was not confirmed.
- The theory of effective use of cost reduction and turnaround strategy was confirmed.
- The company had already successfully applied the cost reduction strategy in practice, so the focus should be on new product development, product rationalization, and entering a new market.
- The need to increase plant capacity has emerged. There is demand, however not enough labor.

The financial model and strategies can be applied by any small business. Especially for this purpose were taken general accounting indicators according to European standards and peculiarities of taxation of small business from the Federal Tax Service of the Russian Federation. Crisis management strategies are additionally universal for all small businesses.

The given financial model can be modified and serve for calculations of new small business. So, the entrepreneur can know in advance about the costs and profitability of his new business.

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## Appendix 1



Picture 1. Kozelsk Mineral Factory's Products



Picture 2. Products of the Pine Forest Company