

IRSTI 06.81.12

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## APPLICATION OF ANALYTICAL TOOLS IN THE ORGANIZATIONAL ANALYSIS

**Abstract.** The aim of the article is to analyze the internal environment and offer solutions to identified problems of one of the domestic companies that functions in the dairy sector of our economy in the Republic of Kazakhstan. The objectives of the study are: to conduct the literature review and carry out the organizational analysis by means of diagrams like “SIPOC”, “Affinity diagram” and the “Interrelationship diagram” which in turn help to analyze the whole company (AMIL LLP). The Force Field Analysis Model of Kurt Lewin has been taken as a theoretical basis of the study. This model gives an understanding of individual and group behavior as determined by motivation and expectation. The literature review was conducted in order to clarify the concepts of change management. The theoretical contribution is in the fact that some attempts have been done to determine the importance of change management activities in production companies like AMIL LLP.

**Keywords:** Change management, Force field analysis, driving forces, restraining forces, SIPOC, Affinity diagram, Interrelationship diagram.

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**Аңдатпа.** Мақаланың мақсаты - Қазақстан Республикасында экономикамыздың сүт өнеркәсібі секторында жұмыс істейтін отандық компаниялардың бірінде проблемаларды талдау және анықталған проблемаларды шешу жолдарын ұсыну. Зерттеудің мақсаттары: әдебиеттерге шолу жасау және мысалы, «SIPOC», «Аффинити диаграммасы» және «Өзара байланыс диаграммасы» арқылы ұйымдастырушылық өзгерістерге талдау жүргізу. Осы талдау инструменттері, өз кезегінде бүкіл компанияны талдауға көмектеседі («Эмил» ЖШС). Зерттеудің теориялық негізі ретінде Курт Левиннің күштік өрісті талдау моделі алынды. Бұл модель мотивация мен күтуге байланысты анықталған жеке және топтық мінез-құлықты түсінуге мүмкіндік береді. Әдеби шолу өзгерістерді басқару тұжырымдамаларын нақтылау мақсатында жүргізілді. Бұл зерттеу өзгерістерді басқару саласындағы білім қорына үлес қосуға бағытталған. Теориялық үлес - «Эмил» ЖШС компаниясы сияқты өндірістік компаниялардағы өзгерістерді басқару қызметінің маңыздылығын анықтауға бірнеше рет жасалғандығында.

**Түйін сөздер:** Өзгерістерді басқару, Күштік өрісті талдау, қозғаушы күштер, тежеуіш күштер, СИРОС, сәйкестік диаграммасы, өзара байланыс диаграммасы.

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**Аннотация.** Цель данной статьи - проанализировать проблемы и предложить решения выявленных проблем одной из отечественных компаний, функционирующей в молочном секторе нашей экономики в Республике Казахстан. Цели исследования: провести обзор литературы, а также провести организационный анализ с помощью таких диаграмм как «СИРОС», «Диаграмма сходства» и «Диаграмма взаимосвязи», которые, в свою очередь, помогут проанализировать всю компанию (ТОО «Эмил»). Модель анализа силового поля Курта Левина была взята в качестве теоретической основы исследования. Эта модель дает понимание индивидуального и группового поведения, определяемого мотивацией и ожиданиями. Обзор литературы был проведен с целью разъяснения концепции управления изменениями. Это исследование было направлено на пополнение совокупности знаний в области управления изменениями. Теоретический вклад заключается в том, что были предприняты некоторые попытки определить важность деятельности по управлению изменениями в производственных компаниях, таких как компания ТОО «Эмил».

**Ключевые слова:** Управление изменениями, Анализ силового поля, движущие силы, сдерживающие силы, СИРОС, диаграмма сродства, диаграмма взаимосвязи.

### *Introduction*

The business of AMIL LLP began with a workshop where it produced gozinaki. Gozinaki is a traditional Georgian confection made of caramelized nuts, usually walnuts, fried in honey, and served exclusively on New Year's Eve and other holidays. The company AMIL LLP is one of the largest companies in the Republic of Kazakhstan in the industry of milk processing and the production of dairy products. The company was founded in 1993. Milk processing at the enterprise began in 1997. Since that time, the company has begun to develop more dynamically. The development of dairy products began in 1999. Noting the importance of Kazakhstan production in the dairy sector and the compliance of AMIL LLP products with international standards, it is important to study the company and identify challenges in its functioning. Today the company produces more than 120 types of dairy products and more than 100 types of ice creams.

Being a major partner, it enables stable development of such peasant farms of the region as: “Kamyshinskoe”, “Experimental farm of oilseed crops”, “Vorobyov and Co.”, “Shemonaikhinskoe”, “Shipulin”, “Glubochanka”, “Dorodnitsa” and “Sredigornenskoye”. These partners appear to be the major

suppliers of raw materials (milk). Consumers of products are local population that consumes its products daily.

The company's products are divided into 8 categories:

1. "Amil" milk production;
2. "Amil" ice-cream;
3. "Amil" semi-finished products;
4. Meat table;
5. Yo-ho-ho-kids oriented production;
6. Le-vital;
7. Cosmo ice-cream;
8. World collection.

The company's main competitor in East Kazakhstan is "Vostok-Moloko" corporation, because their main market place is situated there. Their products are analogous to each other and they compete in different spheres.

The company is not found in doing charity work. But the company clearly helps the community by hiring workers and helping locals with employment.

The enterprise has carried out equipment modernization, this allowed to improve the technological processes and to increase the range of products. New workshops were launched, the staff was selected, and new technologies were mastered. Following modern trends, an automated butter filling line was installed at the AMIL LLP. For the convenience of consumers, the company was one of the first in East Kazakhstan to begin selling products in convenient packaging - pure-pack. Also, the company has entered the Russian Federation market.

The mission of the AMIL LLP is providing high quality milk and dairy products which would be suitable for local tastes. The company's main goal is to expand its sales to the national level. The customers are attracted to products in packaging with a modern design and most importantly - with a short shelf life.

AMIL LLP is a limited liability partnership. AMIL LLP as a production enterprise that provides a decent work to over 800 people, giving them the opportunity not only to work, but also to develop, grow professionally and realize themselves as professionals and individuals [1].

We strive to identify the challenges in the organizational functioning and the state of the AMIL LLP and offer changes through analysis. After identifying driving and restraining forces we will use analysis tools like "SIPOC", "Affinity diagram" and the "Interrelationship Diagram".

#### *Research methods and results*

As stated earlier, the force field analysis model of Kurt Lewin has been taken as a theoretical basis of the study. Kurt Lewin (1890–1947) was one of the main psychologists of his generation [2]. In the course of his life, Lewin was most popular for the development of force field analysis (or topological

psychology as he additionally called it), which gave the theoretical support of all his applied work [3].

Lewin's operational framework for change is his Force Field Analysis Model. This model gives an understanding of individual and group behavior as determined by motivation and expectation. Lewin states that all change is the result of certain forces in a field or particular environment. Lewin identified two dynamic, opposing forces that have an impact on the change process [4].

Driving forces mean simply the desire to improve the situation and restraining forces that can prevent a change from occurring barriers. For example, if one thinks that a project will fail, a past negative experience with unsuccessful change are typical restraining forces. Driving forces need to outweigh the restraining forces enabling the actual shift toward the optimal. For making change successfully, the driving forces must be strengthened in favor of the change while restraining forces are weakened [5].

By analyzing AMIL LLP according to Force Field Theory, we could see opposite forces inside of organization: driving and restraining forces. Further, by applying practical analysis in AMIL LLP we would see clearly what to change which is the problem point, how to change and the most important parts of it.

Table 1 is the "SIPOC" analysis the purpose of which is to identify the output and potential customers of the "AMIL LLP" through defining its suppliers and their inputs.

Table 1: SIPOC analysis of AMIL LLP

Suppliers	Input	Process	Output	Customers
<ul style="list-style-type: none"> <li>➤ Peasant farms like Kamyshinskoye, Vorobyev&amp;Co, Shemonaihinskoye (External)</li> <li>➤ Companies that sell dairy equipment, refrigerators (External)</li> <li>➤ Universities releasing qualified employees (External)</li> <li>➤ Companies issuing pet plastic (External)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Raw materials of milk (e.g. milk, cream milk serum, etc) [1]</li> <li>➤ Instruction for using equipment</li> <li>➤ Qualified employees [2]</li> <li>➤ Pet plastic for packaging [3]</li> <li>➤ Technological process established by Sanitary Epidemiological Station and other requirements [1]</li> <li>➤ Chemicals to keep products for longer period of time [1]</li> </ul>	<ul style="list-style-type: none"> <li>Milking machine ➡</li> <li>Refrigeration storage ➡</li> <li>Delivery to dairy ➡</li> <li>Dairy produces ➡</li> <li>Milk pasteurized &amp; packaged ➡</li> <li>Supermarket &amp; shops</li> </ul>	<ul style="list-style-type: none"> <li>➤ Not qualified milk products [1]</li> <li>➤ Trained enough employees [2]</li> <li>➤ Less using plastic company[3]</li> </ul>	<ul style="list-style-type: none"> <li>➤ Regular customers (External)</li> <li>➤ Shops, resellers, distributors (External)</li> <li>➤ Market itself (External)</li> <li>➤ Companies that use milk as raw materials (e.g. cake production) (External)</li> <li>➤ Amil itself using milk products for another production processes (Internal)</li> </ul>

*Note: complied by the authors based on internal data of the company*

Table 1 illustrates the production process which starts from milk cows (milk collected from the peasant farms), following refrigeration storage and

delivering milk where they produce dairy products. It is noteworthy to say that ready milk products are pasteurized and packaged. Here one can observe a problem with pasteurization. It is obvious that the more chemical one uses, the longer period of time products stay at shelves. By requirements from SES (Sanitary and Epidemiological Service), there is a norm to keep the chemical rate and the way of pasteurization. From complaints out of previous tasks we have noticed that there was an excess of chemicals or maybe at the norm rate but more than before. This exact process forms some problems. Further pasteurized and packaged products are transported to supermarket shelves.

As “AMIL LLP” is one of the largest companies in the Republic of Kazakhstan for milk processing and production of dairy products, this is important to sustain its reputation. One decision is to decrease the level of chemicals which in its turn creates more expenses. One way out could be to change the image of the company. Create a new image that is based on convenience and long storage rather than on their previous organic image. Here we can see no process change, only expenses on marketing. The most promising one would be to find another way of pasteurizing which is more organic and allows keeping the products for longer time.

The figure shown below is the “Interrelationship diagram” the purpose of which is to identify interrelationships between problems and defining driving and enabling problems and provide recommendations.

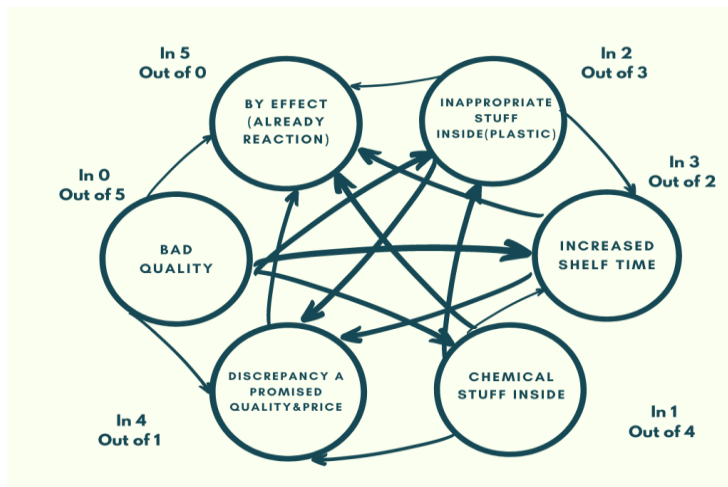


Figure 1. Interrelationship Diagram analysis of AMIL LLP  
Source: carried out by authors based on the company materials

After carrying out this analysis, we have come to the conclusion that the company has many problems related to the production and sale of products. Firstly, we recommend improving the quality of production and using only natural ingredients in production since the company’s products are consumed by

children as well. If the quality is at the highest level and the composition of the product is natural, then consumers will be satisfied with any product cost.

Secondly, people always notice the price and its changes. If the price increases the quality should change accordingly. We recommend the following structure (price=quality) to the AMIL LLP because people do not understand price policies and are not satisfied with the product quality.

Thirdly, companies have to analyze all client's dissatisfaction and work on it. Also, we think that it is very important to communicate with customers and show all changes step by step.

On the figure 2 we have analyzed AMIL LLP through the caterpillar analysis. Caterpillar analysis includes the easy way to conduct and find problems in a company.

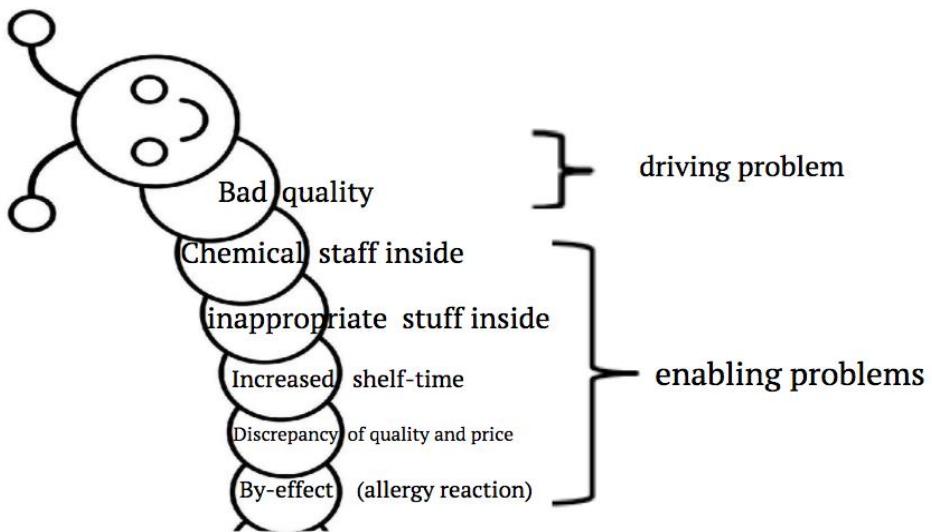


Figure 2. Caterpillar analysis of AMIL LLP

*Source: carried out by authors based on the company materials*

By analyzing all reviews from previous tasks as one can see in figure 2, we have found eight problems, but interrelated problems are six. As we have supposed, the driving problem is bad quality. This bad quality goes around chemical stuff, inappropriate stuff, by-effect and others. Also it is seen that by-effect is least influencing, it is the outcome of other issues. We think that using chemical stuff inside of dairy products is not good and not acceptable by society, because these products are consumed even by children. Also, the lack of control during the production processes might create problems with inappropriate stuff inside such as glass, thread and cellophane. We suppose that this is essential for clients to not find any things inside of their consumed products. Increased shelf time and chemical stuff inside are closely interrelated. Increased shelf-time may be derived from adding chemical stuff inside of the product. Apparently,

inconsistency between quality and price proceed from our main problem - bad quality.

Firstly, we recommend increasing the quality of production and using only natural ingredients because these products would be consumed by children. If the quality will be on a high level and compositions will be natural, customers might be less price sensitive.

The affinity diagram's main goal is to identify main problems of organization and by making managerial analysis it is important to give innovative recommendations. On figure 3 below the Affinity diagram of AMIL LLP is presented.

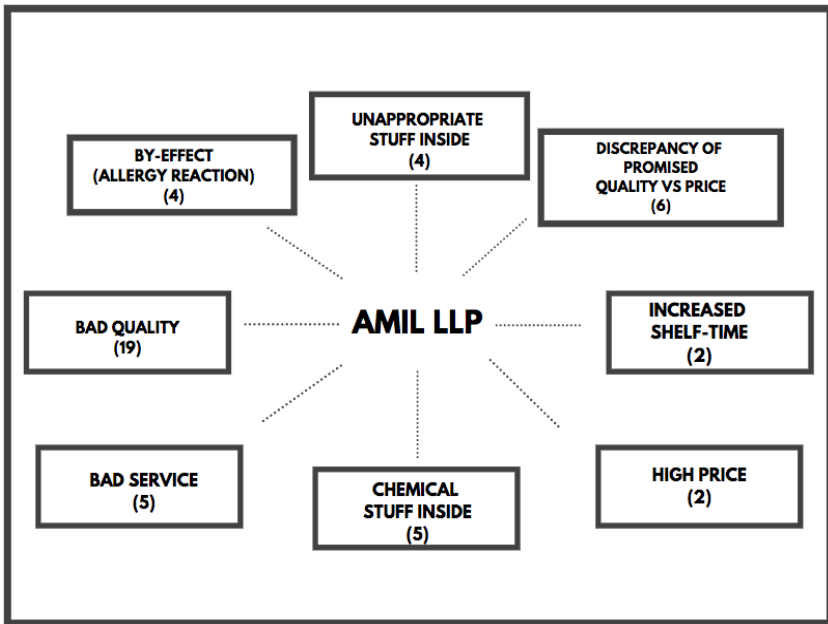


Figure 3. Affinity Diagram of AMIL LLP

*Source: compile by authors*

After analyzing 40 reviews, we have found out that the main problem of AMIL LLP is decreasing quality of products over time. People respected AMIL LLP for high quality and short shelf-time, but through making effort in expanding the market place they lost their quality. That bad quality could be derived from chemicals inside their products or other factors. By using chemicals, they increased their products shelf-time. Everything is related. The discrepancy of promised quality and price could create some problems.

#### *Discussion and recommendation*

As the company is one of the largest companies in the Republic of Kazakhstan of milk processing and production of dairy products, this is important to sustain its authority. One decision is to decrease the level of chemicals which in its order creates more expenses. One way out could be to

change the image of the company. Create a new image that is based on convenience and long storage rather than their previous organic image. Here we can see no process change, only expenses on marketing. The most compromising one would be to find another way of pasteurizing which could combine organic and longer period of holding.

If they would like to sustain their previous authority, they should return to high quality standards. This could be reached through some steps: by decreasing the level of chemicals or following the recommended norms, decreasing the products' shelf-time. Less time to save product – the better quality. That is the truth about perishable food.

Also, the company should hold checking procedures in order to minimize accidents related to inappropriate stuff inside the product.

Compliance with high prices is little. So, as managers, we would not recommend to decrease the price. Because we are pretty sure about the justified price to cost. We suppose that there are weak HR practices in the company. So, they should give some attention to their employees (training, motivating, etc.) We think in order to find out the reason for the by-effects, they have to test the product. Solution while dealing with promised quality and price conformity could be to promise less or decrease the price of weak products. If all recommendations observed above are kept, the products' quality will simultaneously increase.

### *Conclusion*

Analysis of internal environment of one of the companies in the dairy sector of our country was the aim of this study. We have reached this aim through following objectives: the literature review was conducted and an organizational analysis by means of diagrams like "SIPOC", "Affinity diagram" and the "Interrelationship diagram" was carried out. The Force Field Analysis Model of Kurt Lewin was taken as a theoretical basis of the study [6]. As a result, it was found out that the company should pay attention to the chemical structure of its products, improve the quality of its dairy products and justify for themselves the pricing policy. A close attention to the quality management and change management practices will allow the company solve issues identified through the analytical tools like "SIPOC", "Affinity diagram" and the "Interrelationship diagram". The issues as inappropriate stuff inside, increased shelf time, discrepancies between the quality and price and allergies after the product consumption appear to be solvable if the company reconsiders its production processes and improves its HR practices in terms of staff hiring practices.



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