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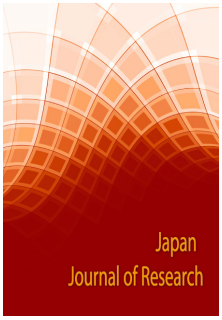

Optimization of business processes in the post-quarantine period of the COVID-19

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Abstract

In 2020 the level of the world economy has significantly decreased because the worldwide pandemic COVID-19. Many enterprises had to seriously think about achieving financial stability and cost optimization. Optimization of production as part of the restoration of business processes against the backdrop of the COVID-19 requires a well-thought-out approach. We have developed a matrix based on ABC and XYZ analysis. This method allows you to obtain additional information (time-cost) on the costs used in the enterprise, on the effectiveness of the resource management system, to determine the share of profitable business processes in accordance with the international standards ISO 9001, ISO 14001, to redistribute the efforts of personnel depending on qualifications and experience.

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AIn 2020 the level of the world economy has significantly decreased because the worldwide pandemic COVID-19. Many enterprises had to seriously think about achieving financial stability and in the short-term maximizing measures at saving money. In a narrow meaning, cost savings can mean budget cuts. Notable examples of budget cuts are cutting marketing costs, providing unpaid leave, relocating employees to remote work, and shorter working weeks. In a broad meaning, saving money means optimizing costs. This is a systematic work and a longer process that requires a comprehensive analysis of the enterprise's activities, determining a chain of interrelated processes reproduction material values, identifying "bottlenecks" and "black holes". The so-called "black holes" in the COVID-19 pandemic and period business recovery are referring to the departments of auxiliary production and management services. The task is further complicated by the fact that, during the period of prosperity and systematic growth, the business strategy was directed "forward" to the development of production. Now, we applied in our practice the risk of deviations in terms of increasing orders, the cost of basic materials, etc. (Certificate for the intellectual product "The use of growth factor in the system of controlling at the manufactory of the cable industry»

№73200700027 on April 11, 2007 Owners Startseva Julia and Startsev Dmitriy). In during a period of general economic recession, it is considered for the enterprise from the side of decreasing orders, reducing prices, etc. Therefore, the growth rates or deviation rates are inverse. In this case, we applied a combination of ABC and XYZ analysis, which allows us to obtain additional information (time-value) about the costs used in the enterprise. Namely, on the efficiency management system, define be the proportion of profitable business processes, in accordance with international standards ISO 9001, ISO 14001, to redistribute the efforts of staff, depending on qualifications and experience. In this case, ABC-analysis is considering as the ratio of quantity and value, and XYZ-analysis as the ratio of quantity and structure of consumption.

We used a combination of ABC and XYZ analyzes as a value and treasure in the manufacturing business process. The ABC analysis parameters were determined according to the degree of importance of the contribution to achieve the goal - the production of goods and services: A - high 80% and above, B - average 40% - 80%, C - low 40% and lower significance of the contribution for the main production of goods or services. The contribution is calculated as: B = T x Kn x Kw, where T is the ratio of the actual rate / hour, Kn is the coefficient of irreplaceability (work cannot or can be performed by others K n = 100% irreplaceable, Kn = 50% partially replaceable, Kn = 25% are completely replaceable), Kв - time coefficient (works can be postponed Kв = 1 cannot be postponed, Kв = 0.5 can be postponed for a day, Kв = 0.25 can be postponed for more than a day).

Parameters of XYZ -analysis: degree of participation: X - 80 % or more, Y - 40% - 80%, Z - 40% or less. The degree of participation is calculated as: Y = Cch x Kp , where C h is the ratio of the unit / employee (1) to the number of units / employees, from the primary link of the business process to the manufacture of finished products / services (2.3.4 ...), Kp is the coefficient constancy (demand for services , Kп = 100% - constantly with each order, Kп = 50% variable, Kп = 25% chaotic).

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We have created a calculation matrix: Combinations AX, AY, AZ, BX, BY, BZ, CX, CY, CZ.

Table 1. Design matrix template

	A 80% or more	40-80%	C from 40% or less
X 80% or more			
Y 40-80%			
Z 40% or less			

Combinations of CY, CZ and BZ have a low contribution significance and a low degree of participation in the main production.

The combinations BY and CX have medium participation and medium contribution significance. Combinations of AX, AY, AZ, BX have a high contribution value and a high degree of participation.

With the help of the calculation matrix, it is possible to determine the least and most necessary departments or employees, which will make it possible to have an objective clear criterion when optimizing business processes. Each of the workshops is built into one of the combinations.

For example, we made calculations at one of the engineering enterprises. For example, shows the calculation of the three services: transport, law department, construction and repair service.

Table 2. An example of filling out the template of the calculation matrix

	A 80% or more	40-80%	C from 40% or less
X 80% or more			
Y 40-80%	Transport		
Z 40% or less	Law Department		Construction - repair service

In table 2 we can see that, first of all, the Construction and Repair Service should be reduced or reorganized the construction and repair service.

Optimization of production as part of the restoration of business processes against the backdrop of a COVID-19 in the global economy requires a well-thought-out approach. The development and application of a design matrix based on ABC and XYZ analysis makes it possible to bring subjective assumptions closer to clear objective design criteria.

This will reduce the number of management mistakes, financial costs while maintaining the release plan.

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