



A Scientific Approach to Managing Operational Efficiency Through the Integration of the Tactical and Strategic Levels of the Enterprise

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Abstract: The article is devoted to the scientific and practical issues of managing the operational efficiency of the enterprise under the current economic conditions. The conceptual-categorical apparatus of the studied problem is developed. According to the results of the critical analysis of approaches to managing the operational efficiency of the enterprise, it is stated that they are limited in post-industrial conditions of their activities. The extension of the management cycle to continuous improvement of the operational activities of the enterprise is proposed. On the basis of streamlining of scientific approaches to the estimation of the state of management of operational efficiency of the enterprise the perspective directions of its development are determined. The methodical approach to assessing the state of operational efficiency management on the basis of operating / competition gaps is developed, which allows to evaluate comprehensively both the level of operating costs and the level of efficiency of achieving the goals of the company. The set of indicators of system for the implementation of the proposed approach in the practice of brewing enterprises has been formed. According to the evaluation results, existing approaches to managing operational efficiency of an enterprise today are obligatory but insufficient for their effective functioning. The scientific approach to the management of operational efficiency of the enterprise, which combines the tactical and strategic levels of management, and the mechanism of its implementation, is developed. Management tools were expanded. Models of operational excellence were grounded. Based on the forecast results of the management of domestic breweries, the feasibility of implementation of the proposed approach in the practice of their activities is empirically confirmed.

Keywords: Operational Efficiency, Value Chain, Minimize Operational Gaps, Cycle of Management, Lean Manufacturing, Competitive Divisions, Managing the Operational Efficiency

1. Introduction

1.1. Relevance of the Topic

The functioning and development of modern enterprises takes place in a dynamic market environment, which is characterized by the acceleration and complexity of changes, the transformation of key dominants of ensuring competitiveness, as well as the growing role of information and intellectual factors in their activities. Substantial transformations of the business environment deepen traditional economic contradictions between production opportunities and consumer preferences, between current

results and strategic goals of enterprise development.

The essence of OEE and the problematics of assessing the state of its management have been investigated by scientists [1, 2, 5, 13-15]: Garaeva, J. L. Gibson, J. A. Martin, I. Kolenskiy, M. Biulov, M. Porter, S. Lobov, T. Krebb, T. J. Chelli, Chian-Yen Lee, Omelyanenko T., Osokina A. V., Zaitseva O. I. and others. Approaches to OEE management are presented in the works of: A. Chiah, W. Wong, G. Nelder, D. Jones, D. Liker, D. Simons, D. Wumek, E. Goldrat, and others.

Highly appreciating the thematic scientific developments in terms of both theoretical and practical experience, it is worth noting that the existing approaches to OEE management are now mainly aimed at resources cost reduction, the time of business

processes and ensuring the necessary level of product quality [8, 9]. Changes in business conditions make it difficult to increase OEE solely on the basis of the implementation of existing (operational) reserves and managerial focus on the determinants of "cost - time - quality". This determines the objective need to develop existing approaches to OEE Management, which today are a mandatory but insufficient condition for ensuring the desired level of operational excellence and improving the results of modern business structures operational activity.

1.2. Purpose and Objectives of the Research

The purpose of the article paper is to improve the theoretical foundations [10, 12] and methodological approaches to the OE management of a modern enterprise in dynamic environmental conditions and develop applied tools for their implementation.

Object of the research is the processes of increasing OEE in modern conditions of its activity.

Subject of the research is a set of theoretical, methodological and practical aspects of evaluating and improving OEE management.

1.3. Hypothesis of the Research

Implementation of the basic provisions of the concept of lean enterprise is a mandatory but insufficient prerequisite for

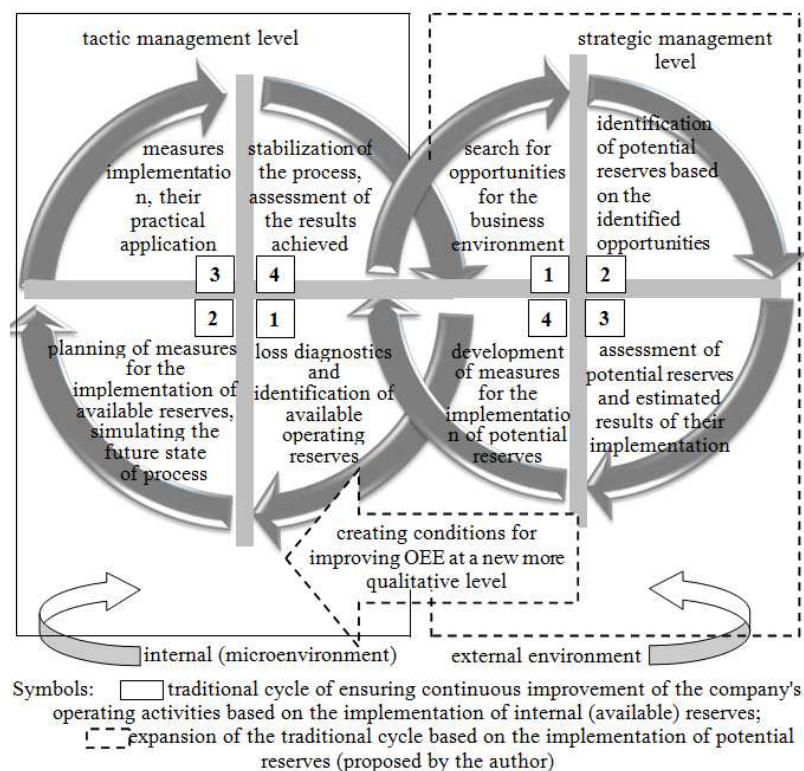
permanently increasing the results of the enterprise's operational activities in modern dynamic conditions of the business environment.

1.4. Methods of the Research

In accordance with the set goal and objectives of the research, the thesis paper uses a set of general scientific and special methods of scientific cognition, in particular: *bibliographic* and *terminological analysis* – to determine and improve the conceptual and categorical apparatus of OEE theory; *scientific generalization* – to systematize approaches to OEE management and streamline the methodological basis for assessing the state of such management; *the method of causal relationships* – to assess the estimated results of the implementation of the proposed approach to OE management in the practice of breweries; methods of comparison and trend analysis – to study the results of operating production of breweries; methods of statistical processing of information and the formulation of integration indicators – for assessing the OE management of production research; system analysis and synthesis – in the case of an integrated transition to OEE management and the mechanism of its implementation; the method of causal-inherited links – for assessing the predicted results of the implementation of the proponated transition to OE management in the practice of brewing enterprises.

2. The Main Content of the Thesis Paper Research

2.1. The Economic Essence of OEE Has Been Revealed in the Section



Source: author's development

Figure 1. Cycle of management of continuous improvement of operational activities of the enterprise based on the implementation of reserves.

"Theoretical and methodological aspects [11] of enterprise operational efficiency management"; approaches to OE management of a modern enterprise have been generalized; the methodological tools for assessing the state of OE management have been streamlined and developed.

Based on the results of the research [5-7], it was found that in some existing international publications, the concept of "operational efficiency of an enterprise" is revealed on the basis of the dualistic unity of operational excellence and operational efficiency. Therefore, the paper proposes to understand OEE as a characteristic of the level of operational excellence and a measure of efficiency in achieving the goals of its operational activities.

To eliminate the ambiguity of the interpretation of the concept of "operational excellence", its essence as an element of organizational leadership of the enterprise is justified, which manifests itself in achieving the desired state of the organization of business processes in the value chain and realizing its resource potential.

The evolution of OEE management has been done by

synthesizing individual approaches, combined with a target focus on costs reduction, product quality improving and shortening the duration of business processes, into a general concept of a Lean Enterprise.

The need to improve the traditional management cycle by continuous improvement of the operational activity of the enterprise, which expands management focus: from existing (internal) to potential (not existing) reserves (Figure 1) has been proved.

The multidimensional nature of OEE management issues has led to the development of multidirectional views on the issues of its assessment. Generalization of scientific sources allowed us to organize the methodological basis for assessing the state of OEE management based on systematization: key approaches, the level of localization of the evaluation focus, measurement metrics and analytical parameters.

Based on the development of the essence of OEE [3, 4] and the main problematic aspects of assessing the state of its management, the paper develops a methodological approach, which is clearly presented in Figure 2.

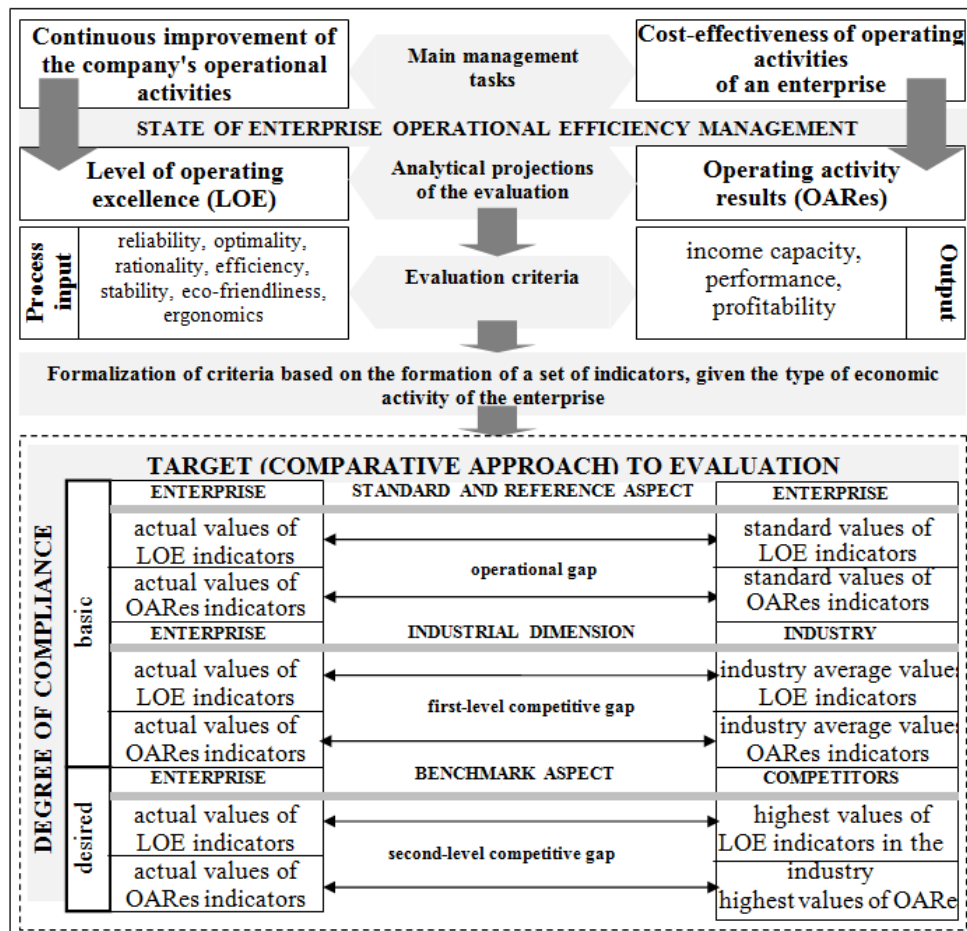


Figure 2. Methodological approach to evaluating the state of operational efficiency management of an enterprise.

It allows you to identify the state of management by two analytical projections "Level of operational excellence", "Results of operating activities" based on the following levels of compliance: 1) standard and reference values

established at the enterprise (operational gap); 2) industry average value (competitive gap of the first level); 3) the highest indicators achieved in the industry (competitive gap of the second level).

2.2. In the Section "Evaluation of the State of Management of Operational Efficiency of Breweries"

Environmental factors affecting the activities of the studied enterprises are identified; a set of indicators for evaluating the state of management of their OEE is justified; its retrospective analysis is carried out for a sample of breweries.

It is established that the environmental factors not controlled by management have a significant negative impact on the results of operating activities of breweries (Table 1). During the study period, their traditional range deepened as follows: a decrease in sales markets for products, a decrease in the purchasing ability of the population, and legislative changes of an industry nature.

Table 1. Key operating activity indicators of breweries.

Enterprise	Years					Years				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
	Sales volume in kind, thousands of HL					Growth rates, in % compared to the previous year				
Enterprise 1	7470	6434	5190	5137	4841	-21.7	-13.9	-19.3	-1.0	-5.8
Enterprise 2	7454	6630	6178	5450	5947	0.7	-11.0	-6.8	-11.8	9.1
Enterprise 3	7898	6896	4990	4340	5185	-10.9	-12.7	-27.6	-13.0	19.5
Enterprise 4	759	880	1021	1086	1219	56.8	15.9	16.0	6.4	12.3
Enterprise 5	237	288	388	328	268	40.7	21.6	34.9	-15.6	-18.2
	Sales volume in monetary terms, mln. UAH					Growth rates, in % compared to the previous year				
Enterprise 1	3281	3218	3706	4170	4386	-17.0	-1.9	15.2	12.5	5.2
Enterprise 2	3336	3291	4214	4642	5741	4.5	-1.4	28.1	10.2	23.7
Enterprise 3	3377	2766	3136	3021	4378	-4.3	-18.1	13.4	-3.7	44.9
Enterprise 4	606	769	1042	1428	1733	78.4	26.9	35.5	37.0	21.4
Enterprise 5	105	148	217	208	241	36.7	41.6	45.9	-3.8	15.5
	Profitability (loss) of operating assets, %					Profitability (loss) of products, %				
Enterprise 1	-8.99	-15.06	-19.73	6.35	-14.12	-5.05	-7.62	-8.23	2.91	-6.42
Enterprise 2	28.60	21.62	23.81	34.90	41.57	24.81	17.92	15.14	21.46	23.87
Enterprise 3	12.77	4.82	8.14	2.36	-0.16	11.43	4.06	6.63	2.90	-0.20
Enterprise 4	6.79	16.15	5.90	5.42	8.54	9.17	20.36	5.27	3.79	5.57
Enterprise 5	14.52	19.81	28.14	5.58	6.51	15.00	16.79	15.25	3.27	4.04

Source: calculated by the author based on the official financial reporting of enterprises

To evaluate the state of OE management based on the developed methodological approach, a system of indicators was formed that allow us to take into account the specifics of the activities of the studied enterprises, minimize subjectivity when choosing the correct optimal values in standardization processes and provide a comprehensive (Table 2).

Table 2. Indicators system for assessing the management status of OE breweries.

CRITERIA	STANDART ASPECT	BENCHMARKING AND INDUSTRY ASPECTS
1	2	3
ANALYTICAL PROJECTION "LEVEL OF OPERATIONAL EXCELLENCE"		
Reliability	Coefficient (c-t) of suitability of fixed assets, ratio of the cost for purchasing new equipment and the cost of its repair and modernization	
Optimality	The level of compliance of actual production stocks with the standard, the level of compliance of work in progress with the standard, the number of operating assets	Volume of production stocks, UAH / HL; volume of work in progress, UAH/HL; c-t of operating assets
Efficiency	The level of compliance of the duration of the production cycle with the standard, the c-t of dynamics of the repayment period of receivables, the level of compliance of the actual labor intensity of products with the standard	Duration of the production cycle, days; period of repayment of receivables, days; labor intensity of products, man-hour / HL
Rationality	The level of compliance of the actual material and energy consumption of products with the standard, the ratio of the growth rate of sales volume and the growth rate of logistics costs	Material consumption of products, UAH / HL; energy consumption of products, UAH/HL; volume of logistics costs, UAH / HL
Stability	The level of stability of suppliers of material resources, the level of stability of distributors	
ANALYTICAL PROJECTION "OPERATING ACTIVITY RESULTS"		
Income capacity	Net income growth rate from sales of products and 1) the growth rate of current expenses, 2) the growth rate of break-even sales volume	Net profit margin of current expenses; margin of safety of operating activities
Productivity	Net income growth rate from sales of products and 1) the growth rate of operating assets, 2) the growth rate of the number of employees	Operating asset productivity, UAH/UAH; labor productivity, thousands UAH / person
Profitability	The ratio of the growth rate of operating profit and 1) the growth rate of total cost, 2) the growth rate of operating assets	Profitability of operating assets, %; profitability of products, %

Source: created by the author

The results of assessing the state of OE management of breweries are shown in Table 3. Breweries are characterized by a high level of Management by achieving the desired level of operational excellence, which is due to significant

operational experience, management focus on optimizing business processes in the value chain, and the introduction of resource-saving technologies.

Thus, the leadership positions of Enterprise 2 are

provided by proactivity of management actions, which minimizes the impact of environmental factors beyond management's control and the accumulation of Strategic Resources, which create prerequisites for more effective use of operational resources. Untimely rejection of

traditional practices that ensured the achievement of the desired operational activity results in the past leads to a low level of management for this component in the Enterprise 1 (the widest product portfolio) and the Enterprise 3 (leadership in terms of costs and price).

Table 3. OE management status of breweries.

Enterprise	Analytical projections					"Results of operational activity"				
	"Level of operational excellence"									
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Operational gap										
Enterprise 1	0.12	0.21	0.11	0.13	0.17	0.86	0.70	0.45	0.58	0.87
Enterprise 2	0.09	0.15	0.13	0.14	0.09	0	0.87	0.23	0	0
Enterprise 3	0.15	0.18	0.14	0.11	0.08	0.85	0.61	0	0.79	0.50
Enterprise 4	0.12	0.06	0.16	0.07	0.07	0	0	0.51	0.62	0
Enterprise 5	0.13	0.14	0.12	0.13	0.17	0	0	0.10	0.81	0.07
First-level competitive gap										
Enterprise 1	0.03	0.05	0.03	0.03	0.05	0.80	0.80	0.81	0.40	0.80
Enterprise 2	0	0	0	0	0	0	0	0	0	0
Enterprise 3	0.12	0.12	0.11	0.09	0.10	0.08	0.21	0.15	0.53	0.47
Enterprise 4	0.26	0.20	0.17	0.12	0.15	0.20	0.04	0.22	0.36	0
Enterprise 5	0.05	0.05	0.01	0	0.12	0.15	0.02	0.02	0.33	0.17
Second-level competitive gap										
Enterprise 1	0.11	0.09	0	0	0.07	0.82	0.73	0.83	0.67	0.86
Enterprise 2	0	0	0.142	0.214	0	0	0	0.06	0	0
Enterprise 3	0.32	0.25	0.21	0.22	0.25	0.44	0.55	0.52	0.77	0.92
Enterprise 4	0.37	0.31	0.29	0.31	0.30	0.57	0.04	0.57	0.66	0.61
Enterprise 5	0.30	0.28	0.18	0.20	0.29	0.46	0.06	0	0.57	0.68
<i>Symbols: - minimum operational and competitive gaps</i>										
Qualitative identification of the state of operational efficiency management of the enterprise										
Enterprise 1	HL	HL	HL	HL	HL	USL	USL	CLL	USL	USL
Enterprise 2	HL	HL	HL	SHL	HL	HL	LL	AL2	HL	HL
Enterprise 3	SHL	SHL	SHL	SHL	SHL	AL2	AL2	SHL	CLL	CLL
Enterprise 4	AL	SHL	SHL	SHL	SHL	SHL	HL	AL	CLL	SHL
Enterprise 5	SHL	SHL	HL	HL	SHL	SHL	HL	HL	LL	SHL
<i>Symbols:</i>										
HL	High level of management that ensures the company's leadership position in the industry									
SHL	Sufficiently high level of management that has reserves for achieving the best industry-specific business practices									
AL	Average level of Management, which requires a proactive approach to the indicators achieved in the industry									
AL2	Average level of Management in unfavorable market conditions and inertial nature of Industry development, which requires the search for reserves to meet the interests of business owners									
SL	Satisfactory level of management that requires a reactive approach to the indicators achieved in the industry									
LL	Low level of management due to the inability to level the impact of environmental factors beyond management's control against the background of industry stagnation and/or unfavorable market conditions									
CLL	Critically low level of management, characterized by both non-compliance of the achieved indicators with industry values and internal standards, and causes outsider positions of the enterprise in the industry									
USL	Unsatisfactory level of management, which makes it impossible to achieve the desired results, threatens the continuity of operational activities, and provokes an increase in business risk									

Source: calculated by the author based on the official financial reporting of enterprises

A fairly high level of management on the analytical projection "Operating activity results" is also typical for medium-sized enterprises (Enterprise 4, Enterprise 5), which, unlike larger enterprises, have not yet exhausted the internal reserves for improving the state of operational excellence and effectively use the opportunities for deepening regional expansion based on increasing the share of premium beers in the product portfolio.

2.3. In the Section "Improving the Operational Efficiency Management of Breweries"

An integrated approach to OEE management has been developed; a mechanism for its implementation has been

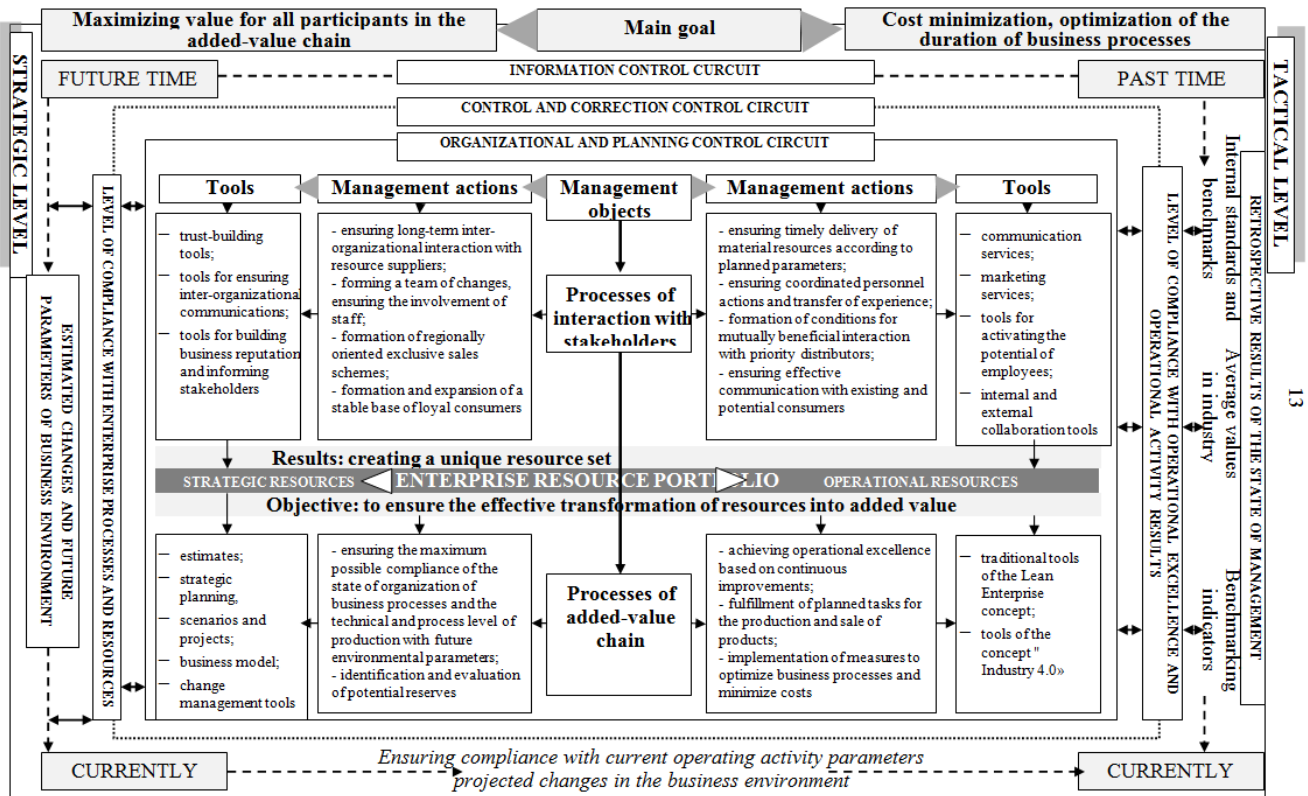
formed; empirically confirmed the feasibility of implementing the proposed approach to the practice of functioning and development of breweries.

In the conditions of a post-industrial economy, when Strategic Resources and the ability to actively respond to dynamic changes in the business environment become decisive in achieving the desired results of operational activities of business structures, there is a need to transform traditional approaches to OEE management, due to their content limitations in establishing causal relationships that determine the logic of building a value-added chain. This determines the nature of management actions from exclusively reactive (tactical level) to proactive (strategic

level), which creates prerequisites for achieving and maintaining competitive positions in the industry based on ensuring the strategic compliance of resources and business processes with dynamic environmental conditions (Figure 3).

The feasibility of choosing priority management decisions and actions based on models of operational excellence is proved. The latter are formed on the basis of empirical data (Table 4),

which allowed us to identify the following: "risks" – a threat to the continuity of operational activities; "reserves" – the existence of internal reserves for continuous improvement; "development" – a high level of operational excellence, the increase of which is excluded by the exhaustion of internal reserves and objectively requires the search and implementation of potential reserves of the business environment.



Source: developed by the author

Figure 3. Integrated approach to operational efficiency management of a modern enterprise and the mechanism of its implementation.

Table 4. Identification of models of operational excellence of an enterprise by a set of values of operational / competitive gaps*.

Operational excellence model	Limits of gap values		
	operational	competitive of 1st level	competitive of 2nd level
Risks	0 – 0.2	0 – 0.2	0 – 0.36
Reserves	0.21 – 0.36	0.21 – 0.64	0.37 – 0.80
Development	> 0.36	> 0.64	> 0.80

* Developed by the author

The necessity of expanding the traditional tools of lean production of enterprises in modern conditions of activity is proved on the basis of: first, generalization of world practices of OE management; secondly, using the capabilities of the "Industry 4.0" concept. These two aspects were differentiated according to the selected processes: 1) interaction with stakeholders; 2) processes of the value chain. In the scope of the first group of processes, such tools are: for suppliers – the use of unified process platforms, blockchain, smart contracts, tools of external collaboration, rings, crowdsourcing; for employees – tools of design thinking, fractaling; for distributors – tools of agency technologies, digitalization of information interaction, external collaboration, rings, crowdsourcing; for consumers –

tools of trade communications, sponsorship, digitalization of consumer behavior.

It was found that, unlike medium-sized breweries, giant breweries have reached critical growth points. Based on the key determinants of increasing OEE, the significant potential for implementing the "Industry 4.0" concept tools to optimize operating costs is noted and the importance of potential reserves for expanding partnerships to increase product sales is updated.

Estimated market drives indicate positive trends as for the growing consumer demand. However, its growth rate is critically low (1-3% annually during 2019-2023). The results of implementing an integrated approach to OE management in

the practice of breweries are shown in Table 5.

Table 5. Estimated indicators of the state of OE management of breweries *.

Enterprise	Analytical projection "Operating activity results"									
	Industry aspect: 1st level competitive gap					Benchmarking aspect: 2nd level competitive gap				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Enterprise 1	0.744	0.389	0.312	0.253	0.243	0.792	0.572	0.471	0.402	0.366
Enterprise 2	0**	0**	0**	0**	0**	0**	0**	0**	0.071**	0.045**
Enterprise 3	0.448	0.438	0.404	0.300	0.250	0.680	0.616	0.554	0.452	0.385
Enterprise 4	0**	0**	0**	0**	0**	0.244	0.174**	0.070**	0**	0**
Enterprise 5	0.033**	0.042**	0.022**	0.038**	0.041**	0.437	0.335	0.231	0.251	0.211

Calculated by the author

** Symbols: - minimum operational and competitive gaps

Based on the assessment of the past experience of brewery operations and future parameters of the business environment, the feasibility of expanding the export capabilities of Enterprise 1 in the markets of Egypt and other African countries; Enterprise 2 - in the markets of China and Vietnam; Enterprise 3 – in the markets of Kazakhstan and Iran is proved. Instead, the increase in the scale of operating activities of medium-sized breweries is determined by the formation of a unique product portfolio with a predominance of the share of elite, craft beers sold in the HoReCa segment.

The obtained statistical data prove the feasibility of implementing the proposed approach, which provides a simultaneous permanent reduction in operating costs and an increase in sales volumes in dynamic environmental conditions.

3. The Scientific Novelty of the Results Obtained Is as Follows

1) for the first time:

A methodological approach to OEE management based on the integration of strategic and tactical levels of management with the mechanism of its implementation is proposed, which allows minimizing operational and competitive gaps between the actual and desired parameters of the management system based on ensuring strategic compliance of business processes and resources with market conditions, given the dynamic changes in the environment of its functioning;

2) have been improved:

- (a) conceptual and categorical apparatus of the studied problems in relation to concretization of the essence of OEE as characteristic of the level of operational excellence and the measure of efficiency in achieving the goals of its operational activities; operational excellence as an element of organizational leadership of the enterprise, which is manifested in achieving the desired state of the organization of business processes of the value chain and the implementation of its resource potential;
- (b) cycle of management of continuous improvement of operational activities of the enterprise based on the expansion of the traditional range of reactive management actions to implement internal reserves

of cost reduction, to optimize business processes and improve product quality by awareness, evaluation and use of potential reserves of the business environment.

- (c) tools for assessing the state of OEE management based on operational / competitive gaps in two analytical projections "Level of operational excellence", "Results of operational activities", which provides a causal logic of analysis based on the differentiation of process-input and output criteria and allows assessing the achieved level of their compliance with the standard and reference (operational gap), industry average (competitive gap of the first level) and the highest in the industry (competitive gap of the second level) values;
 - (d) a system of indicators for assessing the state of OE management, which, unlike existing ones, allows to take into account the specifics of the activities of breweries, ensure comparability of data between enterprises of different scales of activity, minimize the subjectivity of determining the correct optimal values of indicators in the process of their standardization, and form a system information basis for analyzing the compliance of the current state of operational excellence and actual results of operational activities with the basic and desired levels;
- 3) have been further developed:
- (a) methodological aspects of assessing the state of OE management based on systematization: key approaches, the level of localization of the evaluation focus, measurement metrics and analytical parameters, which in a complex ensures the differentiated use in accordance with the information needs of target users of the results of such an assessment and allows to determine priority areas of development in relation to achieving a unified awareness of reality by different management entities;
 - (b) models of operational excellence (risks – reserves – development), which, unlike existing descriptive ones, are determined on the basis of empirical data and form an information basis for determining priority management decisions on: reducing the risks

of operational continuity; focusing on the implementation of internal (available) reserves of continuous improvement;

- (c) traditional OEE management tools based on the concept of lean manufacturing by complementing it with the latest tools of the "Industry 4.0" concept and modern world practices for improving the efficiency of resource transformation into added value in post-industrial conditions of business structures.

4. Theoretical, Methodological and Practical Significance of the Results Obtained

The main theoretical and methodological results of the article paper were implemented and used in the educational process when teaching the course units "Operational management" and "Organization of industrial enterprise management", as well as when teaching the course units "Management", "Operational management" and "Strategic Management".

The main scientific provisions and results of the thesis paper are brought to the level of specific techniques and applied tools for managing the OE of breweries in a modern market environment. The practical significance of scientific results is confirmed by the following: the methodological approach to assessing the state of OEE management and the mechanism for implementing an integrated approach to its management were used in the activities of the Enterprise 1; proposals for choosing priority management decisions based on models of operational excellence were implemented in the work of the Enterprise 2; recommendations for improving the management cycle by continuous improvement of operational activities were implemented at the Enterprise 3.

5. Conclusion

The main scientific and practical results of the study made it possible for us to draw the following conclusions:

- 1) OE management is one of the prerequisites for implementing the company's strategy and its achieving stable competitive positions in the market. The non-linear nature of the relationship between the level of operational excellence and the results of operational activities is determined by the impact of environmental factors, on which management has only an indirect influence.
- 2) In today's market environment, the dominant concept of a lean enterprise, focusing on the determinants of "cost – time – quality", has limited practical capability. The development of approaches to OE management requires expanding the traditional range of management actions: from implementing internal reserves to reduce costs, optimizing business processes and improving product quality to proactive awareness, evaluation and use of potential reserves of the business environment.

- 3) The performed analysis of the existing methodological basis for assessing the state of OEE management has shown that today it is represented by resource, cost, target, multiparametric, and system approaches. Therefore, one of the key tasks should be considered to provide an integrated approach to assessing the state of OE management, which will unite the management entities with a common understanding of reality.
- 4) The assessing the state of OEE management based on operational / competitive gaps in two analytical projections "Level of operational excellence", "Results of operational activities", which provides a causal logic of analysis and allows assessing the achieved level of their compliance with the standard and reference (operational gap), industry average (competitive gap of the first level) and the highest in the industry (competitive gap of the second level) values.
- 5) Expanding the content logic of building management business intelligence based on assessing operational and competitive gaps between current and desired levels of operational excellence and operational results requires building a system of indicators that take into account the specifics and type of economic activity of the enterprise.
- 6) The non-linear nature of the relationship between the level of operational excellence and the results of operating activities of brewing companies is determined by the speed and quality of adaptive response to changes in the external environment of management, the formation of a unique resource set (sample leader is Enterprise 2) and untimely rejection of traditional practices that ensured the achievement of the desired operating results in the past (sample outsiders are Enterprise 1, Enterprise 3).
- 7) Modern business environment conditions require integration of tactical and strategic levels of management and transformation of the target orientation of management from minimizing the cost of operational resources to maximizing value for all participants in the added value chain.
- 8) Improvement of the tool component of the implementation of management decisions should take place on the basis of generalization of world best practices and modern tools of the "Industry 4.0" concept, it is advisable to form a priority set of management actions based on relevant formalized models of operational excellence: "risks – reserves – development".
- 9) The assessment of the past experience of brewery operations and future parameters of the business environment allowed determining the potential reserves for increasing the net income of Enterprise 1 in the market of Egypt and other African countries; of Enterprise 2 - in the market of China and Vietnam; of Enterprise 3 - in the market of Kazakhstan and Iran. Instead, the increase in the scale of operating activities of medium-sized breweries is determined by the formation of a unique product portfolio with a predominance of the share of elite, craft beers sold in the HoReCa segment.

References

- [1] Chia-Yen Lee, Andrew L. Johnson. Operational efficiency. Handbook of Industrial and Systems Engineering, 2nd Edition. 2012.
- [2] Porter M. E. Competitive Advantage: Creating and Sustaining Superior Performance. Free Press: N. Y. 287 p.
- [3] Rao, Christopher J. O'Donnell and George E. Battese. New York: Springer, 2012. 349 p.
- [4] Hammer M. Reengineering the Corporation: A Manifesto for Business Revolution. London: Nicholas Brealey Publishing, 1993.
- [5] Goldratt E. M. Critical Chain. North River Press Publishing Corporation, 1997. 289 p.
- [6] Imai M. Gemba Kaizen: A Commonsense, Low-Cost Approach to Management. Ohno: McGraw-Hill, 1997. 124 p.
- [7] Herbert P. Creating a global mindset. Thunderbird International Business Review. 2000. Vol. 42. No. 2. P. 187-200.
- [8] Feldman M. S., Pentland B. T. Reconceptualizing organizational routines as a source of flexibility and change. *Administrative Science Quarterly*. 2003. Vol. 48 (1). P. 94-118.
- [9] Learning, institutions, and economic performance / Mantzavinos C., North D. C., Shariq S. Perspectives on Politics. 2004. Vol. 2 (1). P. 75-84.
- [10] Becker M. C. A framework for applying organizational routines in empirical research: Linking antecedents, characteristics and performance outcomes of recurrent interaction patterns. *Industrial and Corporate Change*. 2005. Vol. 14 (5). P. 817-846.
- [11] The Concept of "Opportunity" in Entrepreneurship Research: Past Accomplishments and Future Challenges / Short J. C., Ketchen D. J., Jr., Shook C. L., Ireland R. D. *Journal of Management*. 2010. Vol. 36. No 1. 55 p.
- [12] Hart S. M. The Crash of Cougar Flight 491: A Case Study of Offshore Safety and Corporate Social Responsibility. *Journal of Business Ethics*. 2013. Vol. 113. No, 3. P. 519-541.
- [13] Omelyanenko T. Virobnicho-strategic paradigm: genesis and direct transformation. Business strategy in the post-industrial economy: collection. monograph / for zag. ed. A. P. Nalivaika, O. M. Grebeshkovo. Kiev: KNEU, 2017. S. 66-86.
- [14] Osokina A. V., Mind and trends in the development of domestic breweries. Financial space (EBSCO Publishing, Open Academic Journal Index (OAJI), CiteFactor, Universal Impact Factor, ResearchBib). 2018. No 2 (30). P. 179.
- [15] Zaitseva O. I. Evaluation of operational efficiency in the context of improved business process management. Collection of science practices of the Taurian State Agrotechnological University. Ser. Economic sciences. 2019. No 1 (39). pp. 125-132.