Marketing strategy formation under sanction: Utilizing Balanced Scorecard and Hoshin Kanri models in the Iran Khodro Company's regional passenger car markets Формирование стратегии маркетинга в условиях санкций: использование сбалансированной системы показателей и моделей Hoshin Kanri на региональных рынках легковых автомобилей компании Iran Khodro 在制裁条件下制定营销战略:在伊朗霍德罗汽车公司(Iran Khodro)乘用车区域市场使用平衡计分卡和方针管理模型

Rezaeinejad I.

DOI: 10.17747/2618-947X-2024-2-152-163



Marketing strategy formation under sanction: Utilizing Balanced Scorecard and Hoshin Kanri models in the Iran Khodro Company's regional passenger car markets

I. Rezaeinejad1

¹ Peoples' Friendship University of Russia (RUDN University) (Moscow, Russia)

Abstract

There is a sufficient amount of research to confirm that economic sanctions can cause significant damage both to the economic growth of a country and to companies operating in a sanctioned country. In response to multilateral economic sanctions, the sanctioned country develops a number of strategic programmes aimed at easing the sanctions and supporting its economy. Companies also develop strategies to survive and make sustainable profits.

The study aims to examine the strategies that enable companies not only to survive, but also to thrive in international markets; the functional strategies that companies use to increase the efficiency of their activities.

The Iranian automotive industry served as the empirical basis for the study. The case study is of Iran Khodro, one of the two leading companies in the Iranian automotive industry, which accounts for more than 50% of the automotive market in Iran, is given. Using data from companies in the automotive industry, we found that among the functional strategies, marketing strategy is the most important for its effectiveness.

In addition, the management of financial, customer and operational indicators based on the MTSP (Balanced Scorecard) is positively associated with the entry of companies into foreign markets. Finally, this study has showed that for companies in the automotive industry, access to new technologies, financial resources, a strategic plan and an export orientation are key to working successfully under sanctions.

Keywords: Iran Khodro, sanctions, strategic marketing, auto industry, Balanced Scorecard model, Hoshin Kanri model.

For citation:

Rezaeinejad I. (2024). Marketing strategy formation under sanction: Utilizing Balanced Scorecard and Hoshin Kanri models in the Iran Khodro Company's regional passenger car markets. Strategic Decisions and Risk Management, 15(2): 152-163. DOI: 10.17747/2618-947X-2024-2-152-163.

Формирование стратегии маркетинга в условиях санкций: использование сбалансированной системы показателей и моделей Hoshin Kanri на региональных рынках легковых автомобилей компании Iran Khodro

И. Резаинежад¹

1 Российский университет дружбы народов (Москва, Россия)

Аннотация

Существует достаточное количество исследований, подтверждающих, что экономические санкции могут нанести значительный ущерб как экономическому росту страны, так и компаниям, работающим в подсанкционной стране. В ответ на многосторонние экономические санкции страна, подпадающая под них, разрабатывает ряд стратегических программ, направленных на смягчение их действия и поддержку своего бизнеса. Компании также разрабатывают стратегии, направленные на выживание и получение устойчивой прибыли. Цель данного исследования — изучение стратегий, которые позволяют компаниям не только выжить, но и быть успешными на международных рынках.

В качестве эмпирической базы исследования выступила автомобильная промышленность Ирана. Приведен кейс-стади Iran Khodro – одного из двух лидеров иранской автомобильной промышленности, на долю которого приходится более 50% автомобильного рынка в Иране.

Используя данные компаний автомобильной промышленности, автор пришел к выводу, что среди функциональных стратегий наибольшую значимость для их эффективности играет маркетинговая стратегия. Кроме того, управление финансовыми, клиентскими и операционными показателями на основе системы сбалансированных показателей положительно связаны с выходом компаний на внешние рынки. Наконец, данное исследование показало, что для компаний автомобильной промышленности доступ к новым технологиям, финансовым ресурсам, наличие стратегического плана и ориентация на экспорт являются ключевыми для успешной работы в условиях санкций.

© Rezaeinejad I., 2024

Rezaeinejad I.

Marketing strategy formation under sanction: Utilizing Balanced Scorecard and Hoshin Kanri models in the Iran Khodro Company's regional passenger car markets Формирование стратегии маркетинга в условиях санкций: использование сбалансированной системы показателей и моделен Ноshin Kanri на региональных рынках, петковых автомобилей компании Iran Khodro Формирование стратегии маркетинга в условиях санкций: использование сбалансированый быть стратегий на Стра

Ключевые слова: Iran Khodro, санкции, стратегический маркетинг, автомобильная промышленность, модель сбалансированной системы показателей, модель Хосин Канри.

Для цитирования:

Резаинежад Й. (2024). Формирование стратегии маркетинга в условиях санкций: использование сбалансированной системы показателей и моделей Hoshin Kanri на региональных рынках легковых автомобилей компании Iran Khodro. Стратегические решения и риск-менеджмент, 15(2): 152–163. DOI: 10.17747/2618-947X-2024-2-152-163.

在制裁条件下制定营销战略:在伊朗霍德罗汽车公司 (Iran Khodro) 乘用车区域市场使用平衡计分卡和方针管理模型

I. Rezaeinejad¹

1俄罗斯人民友谊大学(莫斯科,俄罗斯)

简介

,有大量研究表明,经济制裁可以对国家的经济增长和在受制裁国家运营的公司造成重大损害。面对多边经济制裁,受制裁国家制定了一系列战略计划,以减轻制裁影响并支持其商业发展。公司也相应地制定了旨在生存和实现稳定利润的策略。

本研究的目的是探讨能够使公司不仅在制裁环境中生存,而且在国际市场上取得成功的策略。本研究以伊朗汽车工业为实证基础。案例研究对象为伊朗汽车工业的两大领军企业之一伊朗霍德罗汽车公司(Iran Khodro),其市场份额占伊朗汽车市场的50%以上。

利用汽车工业公司的数据,作者得出结论,在各种职能战略中,营销战略对其有效性具有最大意义。此外,基于平衡计分卡的财务、客户和运营指标管理与公司进入国际市场之间存在正相关关系。最后,本研究表明,对于汽车工业公司而言,获得新技术、金融资源、拥有战略计划以及注重出口是成功应对制裁条件的关键。 关键词:伊朗霍德罗汽车公司,Iran Khodro,制裁、战略营销、汽车工业、平衡计分卡模型、方针管理模型。

引用文本:

Rezaeinejad I. (2024). 在制裁条件下制定营销战略: 在伊朗霍德罗汽车公司 (Iran Khodro) 乘用车区域市场使用平衡计分卡和方针管理模型。战略决策和风险管理, 15(2): 152–163. DOI: 10.17747/2618-947X-2024-2-152-163.

Introduction

Professors R.S. Kaplan and D.P. Norton introduced a Balanced Scorecard (BSc) method. Many organisations use it to translate the organisation's vision and mission into a strategy [Kaplan, Norton, 1996]. They expressed these goals and objectives in four perspectives: financial, customer, internal business process, learning and growth. This approach covers financial and non-financial aspects of an organisation's performance and balances the performance outcomes of the past and future performance drivers [Kaplan, Norton, 2000]. The financial dimension focuses on spending money on financial resources. In the Balanced Scorecard model, attention to the customer is essential, gaining customer satisfaction through efficient distribution and improving the quality of goods. The third dimension of the Balanced Scorecard is because of the 'internal processes of the organisation' that will strengthen the previous two sizes. Then, 'growth and learning' focuses on the improvement of team members, the quality of organisation's information system, the tools, layout and equipment to achieve goals [Kaplan et al., 2004].

Hoshin Kanri is a planning system for implementing and disseminating the the organisation's objectives and macro strategies to different levels [Zairi, Erskine, 2011]. The Hoshin Kanri planning method extends and shares the goals, directions, and approaches of senior management to the level of the organisation's employees. This enables each organisational unit to plan and manage its activities accordingly [Tennant, Roberts, 2001]. The results are then evaluated and reviewed, and through Deming's circle (PDCA cycle), the aim is to continuously improve the organisation's performance. For this purpose, all organisations are

always doing different actions at the assessment rate and monitoring their life status [Freyssenet, 2010].

The following are some of the key reasons for strategic planning; these reasons show that the absence of such a system poses challenges and risks to the organisation:

- 1) Monitoring and controlling organisational performance at the micro and macro levels [Arnold, Quelch, 1998];
- Providing an appropriate basis for management decisions [Lee et al., 2022];
- Creating the possibility of diagnosing and troubleshooting organisational disorders [Cameron, Green, 2019];
- Controlling performance indicators, effectiveness, productivity, and profitability [Peridy, Abedini, 2008];
- 5) Establishing a basis for appropriate and effective sanctions;
- Establishing a viable option to achieve the organisation's strategic objectives;
- 7) Creating an appropriate space for performance improvement at all levels of the organization [Tennant et al., 2002];
- 8) Establishing appropriate organisational performance management structures [Piplai, 2001];
- It is possible to compare the company with competitors, identify strengths and weaknesses, and environmental opportunities and threats to help develop strategies tailored to its environment and capabilities [Pavlínek, Ženka, 2010];
- 10) The review of past investments and the decision on new investments are based on rankings and performance evaluations [Kotler et al., 2019].

Rezaeinejad I Резаинежал И

As can be seen from above statements, strategic planning ensures growth and success in terms of various aspects of the organisation, a comprehensive system, and proper functioning [Cavusgil, Nevin, 1981].

Iran Khodro is one of the two giant automotive poles of the Iranian automotive industry, with more than 50% of the car market share in Iran. Realisation of percentage of market share in Iran showed their success in the domestic market by more than 50%. Iran Khodro's cooperation with several global mechanisms has been traced to realise the strategy of selecting new builders. Given this, the company has failed to reach the international market [Rezaeinejad, 2021a; 2021b]. Only 2% of Iran Khodro's output has been exported; therefore, the successful presence of the Iranian company in the global market has been considered a strategic issue. In response, the main issue and the critical question for the management of the agent and vice-export is the translation of this current strategy in Iran Khodro Company. The implementation of such a strategy requires the participation and alignment of many organisational levels. Therefore, two Balanced Scorecard perspectives and Hoshin Kanri were targeted as the required tools.

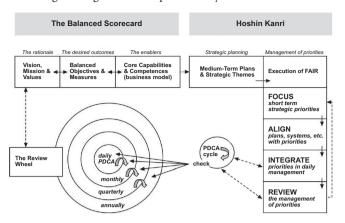
1. Literature review

In recent years, various academics and marketers have found that strategic planning is an effective tool to differentiate and gain a competitive advantage in the market [Clarke, Flaherty, 2003]. These strategic programmes have remained in the market for decades, maintaining their superior position through continuous innovation [Mottaghi, 2019]. Thus, strategic plans have also paid attention to both companies and customers [Humphrey, 2003]. A strategic foresight programme is a tool for measuring an organisation's competitiveness, which since the formation of this concept has been studied mainly through two approaches: financial and non-financial measures [Malina, Selto, 2001]. The topic discussed in this field is whether strategic planning should be considered with the marketing or financial approache [Paul, 2019]. As we will see, most studies have been concerned with these two views. There have also been attempts to combine these two views into a comprehensive model using the Balanced Scorecard and Hoshin Kanri models. By referring to each of these perspectives, this study has attempted to present a model that combines the two perspectives to create a more comprehensive approach to codifying strategic planning [Fernandes et al., 2006].

The integration of the Balanced Scorecard and Hoshin Kanri as a strategic management system is a new theory that has been studied in recent years. It was first proposed by B.J. Witcher and V.S. Chau in 2007. However, attempts have been made to use two models simultaneously rather than as a single model.

As stated, the first example of integrating the two models was presented in 2007 by Witcher and Chau, who gave a Balanced Scorecard and Hoshin Kanri for the strategic management process in the organization's success in achieving its goals should be integrated into an integrated model and complement each other. As shown in Figure 1, the above figure indicates the Balanced Scorecard and Hoshin Kanri as complementary capabilities. The Balanced Scorecard is a long-term strategy. Hoshin Kanri has been stated in the short term [Witcher, Chau, 2007].

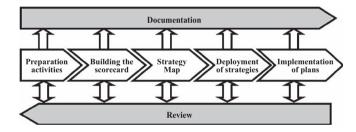
Fig. 1. Integrated model presented by Witcher & Chau



Source: [Witcher, Chau, 2007].

Another example of integrating two models came in the same year, but with a different approach, from Ş. Serdar Asan and M. Tanyaş. In their view, the Balanced Scorecard is a function-oriented and objective model, whereas Hoshin Kanri is process-oriented. They believe that by presenting an integrated model of strategy implementation, weaknesses in setting strategic objectives and placing them in a specific framework can be overcome and better synergy effects can be achieved. The proposed process is shown in Figure 2.

Fig. 2. Integrated model presented by Serdar Asan & Tanyas



Source: presented by [Serdar Asan, Tanyas, 2007].

This stage reviews the literature on strategic management and the use of the Balanced Scorecard and Hoshin Kanri used in companies and organisations.

1. 'Lessons from implementing the Balanced Scorecard in a small and medium-sized manufacturing organisation'were done by [Fernandes et al., 2006].

The UK manufacturing sector is facing massive challenges to survive in today's global and volatile marketplace. Companies are adopting newer management systems to clarify and translate their vision and strategy and translate them into action to meet these challenges. The Balanced Scorecard (BSC) is one such approach that is gaining considerable interest, especiallyin small and medium-sized enterprises (SMEs). This paper uses a case study of an SME to show how BSC can be successfully implemented using a systematic and structured methodology. This paper presents the experimental results of the proposed deployment methodology and highlights the experiences, successes, and lessons learned during the imple-

mentation process. In conclusion, this research confirms the validity and usefulness of the proposed methodology and offers managerial insights and guidelines for similar implementations.

The project initiation phase is the most critical step in the entire implementation process, as it defines the planning and forcasting of the actions required to complete the implementation process. Then, by defining the criteria and indicators, they are examined in the four dimensions of the Balanced Scorecard and are characterised by essential criteria. It builds a clear view of the organisation's movement towards its ultimate goal. It functions to move it to employees at different levels, moving them towards their ultimate goal.

2 . 'Balanced Scorecard implementation in Jordan: an initial analysis' was conducted by [Al Sawalqa et al., 2011].

This paper analyses the state of implementation of the Balanced Scorecard (BSC) in Jordanian industrial companies. From an economic perspective, Jordan is an example of an advanced developing country in the Middle East region. The paper is a more comprehensive investigation into the diversity of performance measurement techniques developed in the West in the Jordanian context. A quantitative survey of 168 companies provided insight into the implementation, diffusion, and purpose of the BSC approach in medium and large industrial companies. The results showed that 35.1% of the companies surveyed used the BSC approach. The results also indicated that approximately 30% of the respondents were considering or implementing the BSC approach. The results showed some inconsistency in the types and number of BSC perspectives used. Companies implementing the BSC used different perspectives in their BSC, focusing on the original four perspectives suggested by the original authors of Kaplan and Norton.

The Balanced Scorecard has spread across industrial sectors and increased with the size of the organisation. The study revealed that Jordanian industrial companies use a Balanced Scorecard for various purposes, such as assessing organisational performance, observing legal cases evaluating management performance, and enhancing business process development [Xia, Tang, 2011]. Other objectives include a better understanding of cause-and-effect relationships, the relevance of organisational strategy, the management of productivity, reward, performance, and decision making.

'The Successes in Long-Term Implementation of Balanced Scorecard: A Healthcare Organisation Study' was conducted by [Chang et al., 2010].

Measuring organisational success is an ongoing challenge for both academics and practitioners. Although studies support the widespread use of the Balanced Scorecard (BSC) in many organisations, few reports have identified critical success factors that can maximise the benefits and overcome certain critical predicaments faced at different stages of BSC implementation in the long term. The purpose of this study is to reflect on the successive phases in the evolution of BSC implementation for the most prominent Presbyterian hospital system in Taiwan. We discuss four phases of BSC implementation from 2001 to 2008 and examine the proposed phases and the activities carried out in each phase. Four stages can be distinguished: (1) planning and

design; (2) weighting and evaluating the strategic performance measures; (3) aligning the strategic business units and strategic support units; and (4) achieving long-term performance and cultural change. Their study also elaborates on the experiences and results of monitoring and managing organisational performance towards a long-term dynamic realisation of an overall goal from the perspective of health care executives ,while exploring managerial guidance for similar implementations. These findings can be generalised for other organisations adopting or considering adopting the BSC.

4. Implementation of Balanced Scorecard: example of the Ministry of Youth and Sport of the Republic of Turkey by [Ekmekçi, 2014].

In this article, the Balanced Scorecard approach has emerged as a selection method through multiple performance measures that meets many of the challenges faced by public institutions. The adoption of what are considered to be private sector management styles and techniques is now becoming commonplace. The Balanced Scorecard methodology enables institutions to measure tangible and intangible assets. These measurements are made in four dimensions: financial perspective, customer perspective, internal process perspective, and learning and growth perspective. In modern management, sport must be controlled autonomously as developed countries. Turkey is one of the three countries where sport is managed by the government. Sport is a state institution, but it is a widespread sector with profit and non-profit organisations in Turkey. For this reason, the Balanced Scorecard method is applied to the Ministry of Youth and Sports as a strategic management tool in this study.

2. Methodology

Methods such as interviews, questionnaires, document review, analysis, and objective observation are used to gather information and evidence in research. However, the following methods will be used in this study: examination of books, articles, and general references related to the field of Balanced Scorecard and Hoshin Kanri, study and analysis of strategic planning document of Iran Khodro Company, questionnaire, the statistical population in this study consists of 15 persons of experts related to the case.

The executive model for research stages is divided into seven phases, which are:

Phase 1: Defining the vision, mission, and values: the mission and vision of the organisation is a document that distinguishes an organisation from other similar organisations, defines values and priorities, specific competitive capabilities and the scope of the organisation's activities in terms of product, customer and market.

Phase 2: Identifying critical success factors and key performance indicators: the critical success factors include an organisation's resources, capabilities and characteristics in the industry and are necessary for success in the marketplace. Key performance indicators help organisations define and measure the achievement of organisational goals. Once an organisation has analysed its mission, all stakeholders are identified, and objectives are defined to measure the degree of access to these objectives. Then, the critical indicators of the tool's performance are provided.

Rezaeineiad I

Phase 3: The SWOT analysis and the determination of the evaluation matrix of the internal factors and external factors and dimensions of the competition and competitor' analysis is an effective tool to identify the environmental conditions and the internal capabilities of the organisation. Understanding the surrounding environment is the basis of this effective strategic management and marketing tool. The first step is to identify internal factors and external factors. After identifying all the strengths and weaknesses, threats, and opportunities, the internal factors evaluation matrix (IFE) is formed from the external factors evaluation matrix (EFE). Next, the internal strengths and weaknesses of the matrix are analysed, and the opportunities and threats of the external factors are examined.

Phase 4: Defining the strategy and creating a quantitative decision matrix: After identifying and scoring internal and external factors in Phase 3, these factors are grouped in the matrix. Then, using the matrix, the strategies are counted, and the priority of implementation is determined.

Phase 5: Defining strategic objectives using the Hoshin Kanri model: after completing the strategic objectives of the export area, the strategic objectives qualitatevly define the outcome of all the organisation's activities and emphasise the long-term (20year horizon) based on the medium-term goals and the strategies necessary to achieve these goals.

Phase 6: Defining the strategy map and creating a Balanced Scorecard model: to build this model, the organisation's strategy must be translated into the dimensions and objectives of several levels (according to the original model to four levels of financial, customer, internal processes, and growth learning) and then, for each of the objectives set in these levels, one or more standard targets are defined to measure the achievement of the objectives. The final step is to define number of plans and action steps to meet the standards set for each indicator.

3. Findings and Discussion

3.1. Case Study: Iran Khodro

Iran Khodro (Persian: اوردوخناری), branded as IKCO, is an Iranian automobile manufacturer based in Tehran. Founded in 1962 by the Khayami brothers, Iran National Company (the first name of Iran Khodro Company) began its operations by assembling L.P. or 321 buses with its parts supplied from Germany. To meet Iranian society's demand for automobile suitable car, the company's founders held talks with the British car manufacturer Talbot to obtain the production certificate to assemble the Hunter Hileman without any localisation. The cooperation with the British manufacturer resulted in various models of the Hunter Hileman or Paykan in 1967. Paykan was assembled into various primary, deluxe, sports, station wagon and pick-up models. In addition to Paykan, Iran National also produced and assembled heavy vehicles [Holweg et al., 2009].

Given the progress made in the production strategy of the national vehicles, Iran Khodro took another long step in designing and developing more sophisticated auto parts and technical sets of subsystems [Esfahani, Pesaran, 2009]. The company has achieved self-sufficiency due to its lack of trust in foreign suppliers and its all-out efforts to achieve the necessary capacities to produce all models of national vehicles [Rezaeinejad, 2021a; 2021bl.

Over the years, IKCO has developed its capabilities to become the most influential industrial group in Iran engaged in industrial activities and services in the automotive sector for both passenger and commercial vehicles. Determined to become a world-class car manufacturer, IKCO established its R&D, engine development and testing centres, along with the latest technology of production machinery, equipment, and facilities in cooperation with leading European countries in the automotive industry, including Germany and France [Klier, Rubenstein,

Since 2003, IKCO has exported passenger cars to more than 40 countries, mainly in the CIS, the Middle East, North Africa, and Eastern Europe [Kuboniwa, 2009]. IKCO cars have been sold in Belarus, Syria, Turkey, Iraq, Venezuela, Azerbaijan, etc. The export of car parts and castings is one of IKCO's main overseas activities. The developing of export is a strategic perspective for IKCO, which is another sign of its movement towards internationalisation and its promotion as a regional company and even an international company.

3.2. Iran Khodro SWOT matrix

After analysing the SWOT matrix, it is clear that the main focus is on organisational processes, followed by the growth and learning perspective. The principle is that these two aspects of the organisation are designed to achieve strategic goals.

Table 1 Strangths and Washness

Strengths and Weaknesses					
Weaknesses (W)	Strengths (S)				
W1) Lack of allocation unit in the field of international affairs	S1) Modern and advanced machinery and equipment				
W2) High logistics and distribution costs W3) Lack of a coherent mechanism in measuring customer satisfaction and agencies	S2) Establishment of the quality management system S3) Existence of personnel with knowledge and belief in system thinking S4) Government attention				
W4) Long time to issue documents	to export and credit for production				
W5) Weakness in the knowledge of managing agencies and lack of appropriate training programme for them W6) Lack of staff in the markets and lack of foreign offices W7) Lack of comprehensive and up-to-date documentation W8) Weakness in effective monitoring of product presentation in the markets W9) Lack of standards for most activities W10) Unclear monitoring of after-sales service performance W11) Weakness in promotion strategy in the market W12) Lack of specialised personnel	S5) Customer complaint management S6) Having appropriate and efficient marketing capabilities S7) Being one of the top exporters S8) Customer-oriented spirit of the staff S9) Identification of customer expectations S10) Having excellent experience at international level				

Rezaeinejad I. Резаинежад И. Marketing strategy formation under sanction: Utilizing Balanced Scorecard and Hoshin Kanri models in the Iran Khodro Company's regional passenger car markets Формирование стратегии маркетинга в условиях санкций: использование сбалансированной системы показателей и моделей Hoshin Kanri на региональных рынках легковых автомобилей компании Iran Khodro 在制裁条件下制定营销战略:在伊朗霍德罗汽车公司(Iran Khodro)乘用车区域市场使用平衡计分卡和方针管理模型

Table 2 Opportunities and threats

3.3. Definition of the strategy and creation of a Quantitative Strategic Planning matrix

Table 3 The internal and external matrix



According to the Quantitative Strategic Planning matrix, the author has prepared some strategies.

- innovation strategy in the process of export marketing and sales research;
- information, organizational, and human capital management strategy;
- 3) market share maintenance and expansion plan;
- export process operations excellence strategy (international affairs, logistics, finance and commerce);
- 5) external database management strategy;
- 6) brand development strategy;
- 7) agency management strategy and agency satisfaction;

- 8) productivity strategy;
- 9) growth and profitability strategy;
- 10) export customer satisfaction strategy.

According to the Quantitative Strategic Planning matrix, we have prioritised strategies using expert opinion in Table 4.

Table 4
Quantitative Strategic Planning matrix

Priority	Strategies		
66/6	Strategy 4 = Export process operations excellence strategy (international affairs, logistics, finance and commerce)		
62/5	Strategy 1 = Innovation strategy in the process of export marketing and sales research		
38/5	Strategy 5 = External database management strategy		
35/5	Strategy 7 = Agency management strategy and agency satisfaction		
3/5	Strategy 2 = Information, organisational, human capital management strategy		
51/4	Strategy 3 = Strategy to maintain and grow market share		
01/4	Strategy 10 = Export customer satisfaction strategy		
91/3	Strategy 6 = Brand development strategy		
44/3	Strategy 9 = Growth and profitability strategy		
32/3	Strategy 8 = Productivity strategy		

3.4. Defining strategic goals by the Hoshin Kanri model

After analysing the SWOT analysis and studying the mission and vision of the organisation, the strategic objectives of the company were prepared according to Hoshin Kanri objectives as follows:

- 1. Employing experts in the field of export.
- Institutionalising individual and organisational export knowledge.
- 3. Using modelling of top organisations.
- 4. Fostering export culture in the organization.
- 5. Optimising the export organisation structure.
- 6. Development of export customer database.
- 7. Development of customer communication systems and agency network.
- 8. Information systems development and integration.
- 9. Improving the knowledge and skills of export personnel.
- 10. Deepening and expanding market studies.
- 11. Improving the market research mechanism.
- 12. Demand management of export customers.
- 13. Developing new marketing methods.
- 14. Quantitative and qualitative improvement of participation in international exhibitions.
- 15. Developing interaction with agents and customers.
- 16. Brand development.
- 17. Simplifying the logistics process and product distribution.
- 18. Simplifying document issuing processes.
- 19. Enhancing the capabilities of the dealer network.
- 20. Expanding dealer network.
- 21. Developing network monitoring and evaluation.

Rezaeinejad I

- 22. Agent business development.
- 23. Developing agency standardization.
- 24. Product export development.
- 25. Development of new marketing and sales methods.

3.5. Preparation of a balanced scorecard and definition of the strategic plan

In the end, the integrated model of the Balanced Scorecard and Hoshin Kanri provided for Iran Khodro's export division in Tables 5–8. Tables 5–8 prepare a Balanced Scorecard model for Iran Khodro in four aspects.

4. Conclusions and proposals

In the strategic planning of Iran Khodro's export division, attention has been paid to the cause-and-effect relationships and the Balanced Scorecard. Based on the objectives derived from the strategy, indicators and measurement criteria have been defined based on the Hoshin Kanri, considering that Iran Khodro Company operates as one of the two major car manufacturing hubs in the country with more than 50% share of the passenger car market in Iran. Therefore, based on the Hoshin Kanri model and the Balanced Scorecard model, it was examined whether the Balanced Scorecard framework could be designed to meet the needs for effective translation, implementation, and alignment of

Table 5
The Balanced Scorecard model from a customer perspective

		1 1	
Target value	Measurement unit	Related measures	Strategic objectives
70	Percent	Customer satisfaction with product price	Economic price
85	Percent	Customer satisfaction with after-sales service	Competitive after-sales service
75	Percent	Agent satisfaction with after-sales service	Competitive after-sales service
75	Percent	Agent satisfaction with sales services	Competitive sales service
90	Percent	Agent satisfaction with product quality	Modelling of ton organizations
90	Percent	Customer satisfaction with product quality	Modelling of top organisations
85	Percent	Agent satisfaction with product comformity with the order	Product conformity with the order
85	Percent	Agent and customer satisfaction with timely delivery	Timely delivery
60	Percent	Agent satisfaction with product prices	Information systems integration
35	Percent	Market share of Iran Khodro products in export markets	Maintaining and growing of market share
73	Percent	Satisfaction of export sales network agents	Export customer satisfaction
35	Percent	Iran Khodro brand awareness	Well-known brand
73	Percent	Satisfaction of export sales network agents	Developing and updating system documentation standards
35	Percent	Customer satisfaction with the free service portfolio	Complementary service portfolio
75	Percent	Agent satisfaction with the economic situation of the sales agents' business	Economisation of representative units

Table 6
The Balanced Scorecard model in financial-aspect

Target value	Measurement unit	Related measures	Strategic goals	
2000	Device	Number of CBUs issued		
2700	Device	Number of CKDs issued		
50	Percent	Export rates to production	Increase exports of current products	
9	Number	Number of CBU markets		
500	Thousand dollar	Export value of production equipment and technical and engineering services		
153 486	Thousand dollars	Exported CKD value		
65	Percent	The ratio of the number of new products exported to total exports	Export new products	
158 486	Thousand dollars	Export value of new products		
30	Percent	The ratio of sales to investment	Information systems integration	
5	Percent	Per capita advertising cost per car in the target market	Increase marketing cost efficiency / Sales	
110 000	Thousand dollars	The amount of savings in marketing costs		
150 000	Thousand dollars	The amount of logistics costs saved per year	Reduce logistics and	
35	Percent	The ratio of absorbed export credits to export value	distribution costs	

Rezaeinejad I. Резаинежад И. Marketing strategy formation under sanction: Utilizing Balanced Scorecard and Hoshin Kanri models in the Iran Khodro Company's regional passenger car markets Формирование стратегии маркетинга в условиях санкций: использование сбалансированной системы показателей и моделей Ноshin Kanri на региональных рынках легковых автомобилей компании Iran Khodro 在制裁条件下制定营销战略:在伊朗霍德罗汽车公司(Iran Khodro)乘用车区域市场使用平衡计分卡和方针管理模型

Table 7
The Balanced Scorecard model in growth & learning-aspect

Target value	Measurement unit	Related measures	Strategic goals	
50	Number	Number of registered sciences	Institutionalisation of individual and organisational export knowledge	
34	Number	Number of databases	Development of customer database /product /	
34	Number	Number of records and database fields	market	
45	Hour	Specialised export training per capita per year	Improving the knowledge and professional skills of export staff	
5	Number	Number of Modelling activities carried out and reported (organizations, exhibitions, seminars, research, etc.)	Modelling of top organisations	
80	Percent	Implementation of export culture promotion in the organisation	E-daile	
8	Number	Number of methods used to promote export culture in the organisation	Fostering an export culture in the organisation	
75	Percent	The degree of alignment of the organisational structure with export strategies	Optimisation of the export organisational	
60	Percent	The degree of integration of information systems	Internation of information greature	
15	Number	Number of new information systems	Integration of information systems	
75	Percent	Percentage of implementation of customer relationship and agency system	Development of customer communication systems, dealer networks and overseas production sites	
11	Number	Number of documents created	Developing and updating system	
11	Number	Number of documents updated	documentation standards	

Table 8 The Balanced Scorecard model in internal processes-aspect

Target value	Measurement unit	Related measures	Strategic goals	
65	Percent	Percentage of coverage of market studies with standard criteria		
25	Number	Number of market research reports	Improving and expanding market research	
25	Number	Number of markets studied		
20	Number	Export market portfolio implementation rate	Portfolio management maintaining and influencing target markets	
8	Number	Number of complementary services provided per dealership	Top organisation modelling	
8	Number	Number of complimentary services provided by agencies		
4	Number	Number of sales promotion methods	Developing new marketing and sales promotion methods	
4	Number	Number of advertising methods per market		
5	Number	Number of visits to trade fairs as a percentage of total number of visits per year	Increasing promotional methods	
8	Number	Number of delegations received and sent	Encouraging interaction with agents,	
6	Number	Number of conferences per year	customers and domestic and foreign institutions	
3	Number	Number of brand development programmes	Creating a well-known brand	
35	Percent	Reduction of CBU container shipping costs	Agility of supply and preparation processes	
3	Day	Average time of logistics process to export products		
55	Percent	Ratio of documents required for duty drawback to documents delivered	Agility of financial and business processes	
2	Day	Average time to issue documents		
75	Percent	Percentage of needs met by export customers	Managing the strategic needs of foreign production sites	

Marketing strategy formation under sanction: Utilizing Balanced Scorecard and Hoshin Kanri models in the Iran Khodro Company's regional passenger car markets Формирование стратегии маркетинга в условиях санкций: использование сбалансированной системы показателей и моделей Hoshin Kanri на региональных рынках легковых автомобилей компании Iran Khodro 在制裁条件下制定营销战略:在伊朗霍德罗汽车公司(Iran Khodro)乘用车区域市场使用平衡计分卡和方针管理模型

Rezaeinejad I. Peзаинежал И.

Table 8 (ending)

Target value	Measurement unit	Related measures	Strategic goals	
75	Percent	Percentage of product location added to products - production sites	Optimising the business structure of foreign production sites	
7	Number	Number of markets with a production site		
18	Number	Number of monitoring systems	Systematisation of monitoring systems of foreign production sites	
18	Scores	Score of representatives in each market	Development of standardisation and capacity of agencies	
14	Scores	Acceptable score obtained by representatives in evaluations		
7	Number	Number of agencies	Expansion of the network of agencies	
4	Number	The number of representatives evaluated	Development of network monitoring and evaluation	

macro-strategies and strategic issues at different levels of the organisation, so that each level can understand its role and position in the realisation of strategic issues and gain more value from the use of this tool.

Evaluation of Iran Khodro's strategic plan using key components of the Balanced Scorecard:

A. Financial aspect

1. Increasing the current products exported

'Increase in exports of current products' is calculated using three key indicators: 'number of vehicle parts exported,' 'value of spare parts exported,' 'export value of production equipment and engineering and licensing services,' to the number of CBU export markets. The situation indicates a weakness and the need to work on improving this area. Therefore, the author suggested that Iran Khodro Company strengthen sales by holding monthly planning meetings with all relevant units, implementing the export reporting system, consolidating existing distributed systems, and concluding and renewing contracts with customers and contractors. It is important to act with the necessary capacity and flexibility and to continue to increase capacity through the programme. Furthermore, should a group undertake the sales and installation of production facilities in a simultaneous manner, the average installation time of projects will be reduced, thereby facilitating the expeditious realisation of support revenues.

2. Exporting new products

The calculated value for the export of new products through the two key indicators, number of new product sites and number of markets studied for the construction of the production line, is in close proximity to the set goal and exibits minimal discrepancy from the set goal. In accordance with the devised plan, the calculated actual values are evaluated in relation to the set goals. The defined indicators are deemed sufficient and appropriate for evaluating the company's financial performance.

B. Customer aspect

1. Export customer satisfaction

The export customer satisfaction indicator is comprised of two key metrics: the number of markets in which the end-customer survey was conducted and the number of markets in which the representative survey was conducted. According to the pre-established goals, these metrics indicate areas of weakness and a need to implement strategies to enhance this aspect of the process. Therefore, the researcher recommended that Iran Khodro Company a more comprehebsive approach to the planning of surveys and evaluations to be conducted in designated markets. For this goal, the company may consider conducting surveys in other potential markets, includinf Syria, Venezuela, Iraq.

2. Product compliance with the order

The critical indicator of product compliance with the order, namely the export fulfillment rate, serves to highlight the necessity for improvement in this particular area. It was therefore recommended by the researcher that Iran Khodro Company implement more rigorous performance monitoring and comparison with the plan, submit reports to the production, supply, and logistics headquarters, and accurately reflect customer orders to Iran Khodro planning. Furthermore, it was suggested that weekly meetings be held with relevant units, and that orders be packaged on time.

According to the resulting planning in each metric, it is possible to calculate the actual values and compare them with the set goals. The defined indicators to evaluate customer performance are efficient and effective.

C. Internal processes aspect

1. Improving and expanding market studies

Improving and expanding market studies through four key indicators: market study standardisation, improving export market prioritisation methods, improving survey methods and identifying appropriate sources for purchasing information according to the set goals. The result of efforts in this field is presented. It is therefore recommended that Iran Khodro Company implement a comprehensive plan to address the shortage of human resources, which is likely to become increasingly acute in the context of the planned expansion in activities in the field of advertising and international affairs. In order to prioritise markets and select several models, it is necessary to:

2. Implement effective control and penetration management strategies within target markets

The management of protection and influence in target markets is indicated by five key factors, which also demonRezaeinejad I. Резаинежад И. Marketing strategy formation under sanction: Utilizing Balanced Scorecard and Hoshin Kanri models in the Iran Khodro Company's regional passenger car markets Формирование стратегии маркетинга в условиях санкций: использование сбаланскированию системы показателей и моделен Ноshin Kanri на региональных рынках, легковых автомобилей компании Iran Khodro Формирование сбаланскирование стратегии маркетинга в условиях санкций: использование сбаланскирование Санаковского Страте Нового Страте В Стратегии маркетинга в условиях санкций: использование сбаланскурование Стратегии маркетинга в условиях санкций: использование сбаланскурование Стратегии маркетинга в условиях санкций: использование Стратегии маркетинга в условиях санкций: использование Стратегии маркетинга в условиях санкций: использование сбаланскурование Стратегии маркетинга в условиях санкций: использование стратегии маркетинга в условиях санкций в условиях санкций

strate the relative weakness of some sectors and the necessity for efforts to improve these sectors. It was thus recommended that Iran Khodro Company appoint a resident representative of Iran Khodro in the Iraqi market and a representative in the African markets. Furthermore, the implementation sales development plans in four markets, namely Iraqi, Azerbaijanian, Syrian and Egyptian was advised, as was the expansion into five markets in Ukraine, Russia, Belarus, Nigeria, and Algeria. Finally, the pursuit of an increase in the warranty ceiling for export vehicles was also recommended. In order to facilitate the preparation of a business plan and its approval by the board, the company will pursue the adoption of the Euro 4 standard for all export products by engineering, marketing and presenting prototype vehicles in African markets. Furthermore, the company will market and offer a model car in markets in Asia and Europe. In addition, the company will participate in car exhibitions in Africa and Latin America, Asia, and Europe.

3. Develop innovative marketing techniques and sales promotions

The attainment of the set goals demonstrates a notable deficiency, threby underscoring the necessity for improvement. Therefore, the researcher proposed that Iran Khodro Company undertake the compltion and implementation of the seven markets in Syria, Iraq, Venezuela, Algeria, Azerbaijan, Egypt, and Sudan.

4. Provide quantitative and qualitative development of advertising mechanisms

The number of markets for which export advertising information has been provided shows the effectiveness of the programmes in this area. Therefore, the researcher said that Iran Khodro Company should improve its advertising and provide more useful tools in eleven countries (Egypt, Nigeria, Algeria, Iraq, Syria, Ukraine, Belarus, Azerbaijan, Sudan, Senegal, and Venezuela).

5. Promote interaction with representatives and customers and institutions

The objective is to enhance the interaction with representatives, customers and domestic and foreign institutions. This will be achieved by pursuing the creation of an export website, which is a key indicator of success in this sector. The efficiency and effectiveness of the programmes in this sector are demonstrated by the attainment of the set goals. It was therefore recommended by the researcher that Iran Khodro Company persevere in its efforts to establish an export website, with the preparation of web pages in languages other than English representing a key component of this strategy.

6. Introduce brand promotion in global markets

The term 'brand promotion in global markets' is defined by three key indicators, the performance of which indicates a slight weakness in relation to the set goals. This area therefore requires improvement. In light of these considerations, the researcher proposed that Iran Khodro Company delineate and assemble an advertising campaign in six Asian and three African markets, while concurrently identifying potential avenues for expansion in regions such as Syria, where prevailing political circumstances present a challenge.

7. Make agencies more standardised and capable

The researcher recommended that Iran Khodro Company should create a standard for overseas agencies, develop software software for active markets, and create training packages for agencies.

8. Expand the network of agencies

The expansion of the network of agencies can be gauged by the key indicator of the number of selected regional agencies. This indicator demonstrates the effectiveness of the programmes in this sector in achieving the set goal. In light of the aforementioned considerations, the researcher proposed that Iran Khodro Company delineate and operationalise a network development plan in the Syrian and Iraqi markets. This entailed formulating a plan to visit the markets, applicants and agencies, with the objective of selecting five regional agencies in Syria and two agencies in Iraq.

9. Monitor and evaluate networks

The researcher proposed that Iran Khodro Company devise a checklist to assess the standardisation of agencies and oversee and monitor agencies' standards. The calculation of actual values and comparison with set goals is made possible by the resulting planning in each metric. The defined indicators for evaluating customer performance are sufficiently efficient and evaluative.

D. Consider learning and growth aspects

1. Develop customer, product and market database

The development of a customer, product and market database is contingent upon the creation of a comprehensive export database. This indicator demonstrates the current deficiencies in this sector and underscores the necessity for more rigorous implementation of programmes and criteria. Consequently, the researcher proposed that the Iran Khodro Company assume a coordinating and monitoring role in the field of database design across various stages, facilitating the exchange of information regarding the export unit's requirements.

2. Develop and update system documentation standards

The development and updating of system documentation standards, as indicated by the critical factor (number of documents finalised, reviewed and compiled), in accordance with the established goals, demonstrates a relatively high level of effectiveness and efficiency of programmes in this area. It is therefore recommended that the Iran Khodro Company maintain and reinforce the number of finalised, revised, and compiled documents. In order to achieve this objective, it is essential to give due consideration to the review of the executive method of commercial services.

As can be observed, an analysis of the results obtained in each of the measures indicates that, at least in the short term, some indicators should be adjusted or a suitable mechanism should be designed to respond to and calculate them.

Finally, considering the consensus on these indicators, the potential for calculating actual values and comparing them with the established goals for the two indicators, and the aforementioned explanation, it can be concluded that these indicators, in terms of learning and growth, represent a valuable tool for evaluation and performance assessment in the strategic planning domain of Iran Khodro Company.

Marketing strategy formation under sanction: Utilizing Balanced Scorecard and Hoshin Kanri models in the Iran Khodro Company's regional passenger car markets
Формирование стратегии маркетинга в условиях санкций: использование сбалансированной системы показателей и моделей Hoshin Kanri на региональных рынках легковых автомобилей компании Iran Khodro 在制裁条件下制定营销战略:在伊朗霍德罗汽车公司(Iran Khodro)乘用车区域市场使用平衡计分卡和方针管理模型

Rezaeinejad I.

References

Al Sawalqa F., Holloway D., Alam M. (2011). Balanced Scorecard implementation in Jordan: An initial analysis. *International Journal of Electronic Business Management*, 9(3): 196.

Arnold D.J., Quelch J.A. (1998). New strategies in emerging markets. MIT Sloan Management Review, 40(1): 7.

Cameron E., Green M. (2019). Making sense of change management: A complete guide to the models, tools and techniques of organizational change. Kogan Page Publishers.

Cavusgil S.T., Nevin J.R. (1981). Internal determinants of export marketing behavior: An empirical investigation. *Journal of Marketing Research*, 18(1): 114-119.

Chang W.C., Kuo T., Wu A. (2010). The successes in long-term implementation of Balanced Scorecard: A healthcare organization study. SSRN Electronic Journal, August.

Clarke III I., Flaherty T.B. (2003). Challenges and solutions for marketing educators teaching in newly emerging markets. *Journal of Marketing Education*, 25(2): 118-129.

Ekmekçi Y.A.D. (2014). Implementing of Balanced Scorecard: Sample of Turkish Republic Ministry of Youth and Sport. *Procedia-Social and Behavioral Sciences*, 150: 754-761.

Esfahani H.S., Pesaran M.H. (2009). The Iranian economy in the Twentieth century: A global perspective. *Iranian Studies*, 42(2): 177-211.

Fernandes K.J., Raja V., Whalley A. (2006). Lessons from implementing the Balanced Scorecard in a small and medium size manufacturing organization. *Technovation*, 26(5-6): 623-634.

Freyssenet M. (2010). The beginnings of a Second Automobile Revolution. In: Convegno 'Sfide ed opportunità della filiera automobilistica'. *Economia e Politica Industriale*, 17: 7116-10941.

Holweg M., Davies P., Podpolny D. (2009). The competitive status of the U.K. automotive industry. Buckingham, Picsie Books.

Humphrey J. (2003). Globalization and supply chain networks: the auto industry in Brazil and India. Global Networks, 3(2): 121-141.

Kaplan R.S., Kaplan R.E., Norton D.P. (2004). Strategy maps: Converting intangible assets into tangible outcomes. Harvard Business Press.

Kaplan R.S., Norton D.P. (1996). Linking the balanced Scorecard to strategy. California management review, 39(1): 53-79.

Kaplan R.S., Norton D.P. (2000). Having trouble with your strategy? Then map it. Focusing Your Organization on Strategy - With the Balanced Scorecard, 49(5): 167-176.

Klier T.H., Rubenstein J.M. (2010). The changing geography of North American motor vehicle production. *Cambridge Journal of Regions, Economy and Society*, 3(3): 335-347.

Kotler P., Keller K.L., Brady M., Goodman M., Hansen T. (2019). Marketing management. Harlow, Pearson Education.

Kuboniwa M. 2009. Present and future problems of developments of the Russian auto-industry. Russian Research Center, Institute of Economic Research, Hitotsubashi University, 15.

Lee H.S., Chernikov S.U., Nagy S., Degtereva E.A. (2022). The impact of national culture on innovation: A comparative analysis between developed and developing nations during the pre-and post-crisis period 2007-2021. *Social Sciences*, 11(11): 522.

Malina M.A., Selto F.H. (2001). Communicating and controlling strategy: An empirical study of the effectiveness of the balanced Scorecard. *Journal of Management Accounting Research*, 13(1): 47-90.

Mottaghi M. (2019). Improving organizational performance along with strategic planning in the framework of combining the David model and BSC assessment model. *International Journal of Information, Business and Management*, 11(2): 256-270.

Paul J. (2019). Marketing in emerging markets: A review, theoretical synthesis and extension. *International Journal of Emerging Markets*, September (ahead-of-print).

Pavlínek P., Ženka J. (2010). The 2008-2009 automotive industry crisis and regional unemployment in Central Europe. *Cambridge Journal of Regions, Economy and Society*, 3(3): 349-365.

Peridy N.J., Abedini J. (2008). The growing influence of emerging countries in the World car industry: An estimation of export potentials in a world trade model. *Global Economy Journal*, 8(3).

Piplai T. (2001). Automobile industry: Shifting strategic focus. Economic and Political Weekly, 2892-2897.

Rezaeinejad I. (2021a). Automotive industry and its place in the economy: Case study Iran auto industry. *Asian Journal of Economics, Finance and Management*, 23-32.

Rezaeinejad I. (2021b). Impact online marketing strategies on improving the status of businesses in the COVID-19 situation in Iran. *Asian Basic and Applied Research Journal*, 24-33.

Serdar Asan Ş., Tanyaş M. (2007). Integrating Hoshin Kanri and the Balanced Scorecard for strategic management: The case of higher education. *Total Quality Management*, 18(9): 999-1014.

Rezaeinejad I.
Резаинежад И.
Формирование стратегии маркетинга в условиях санкций: использование сбалансированной системы показателей и моделей Hoshin Kanri на региональных рынках легковых автомобилей компании Iran Khodro خطائط (Iran Khodro) 乘用车区域市场使用平衡计分卡和方针管理模型

Tennant C., Roberts P. (2001). Hoshin Kanri: Implementing the catchball process. Long Range Planning, 34(3): 287-308.

Tennant C., Warwood S.J., Chiang M.M.P. (2002). A continuous improvement process at Severn Trent Water. *The TQM Magazine*, 14(5): 284-292.

Witcher B.J., Chau V.S. (2007). Balanced scorecard and hoshin kanri: Dynamic capabilities for managing strategic fit. *Management Decision*, 45(3).

Xia Y., Tang T.L.P. (2011). Sustainability in supply chain management: Suggestions for the auto industry. *Management Decision*, 49(4): 495-512.

Zairi M., Erskine A. (2011). Excellence is born out of effective strategic deployment: The impact of Hoshin planning. *International Journal of Applied Strategic Management*, 2(2): 1-28.

About the author

Ismael Rezaeinejad

PhD (Econ.), MBA, researcher and business counselor, Peoples' Friendship University of Russia (RUDN University) (Moscow, Russia). ORCID: 0000-0001-8712-7597; Researcher ID: AAQ-7811-2021; Scopus Author ID: 58075328900.

Research interests: world economy, international businesses, digital economy, education economics, economic development, economic sanctions, macroeconomic, economic cooperation Iran - Russia, political economy, international trade, management theories, economic inequality, human resource management.

1042225184@pfur.ru

Информация об авторе

Исмаэл Резаинежад

PhD (экономика), MBA, исследователь и бизнес-консультант, Российский университет дружбы народов (РУДН) (Москва, Россия). ORCID: 0000-0001-8712-7597; Researcher ID: AAQ-7811-2021; Scopus Author ID: 58075328900.

Область научных интересов: мировая экономика, международный бизнес, цифровая экономика, экономика образования, экономическое развитие, экономические санкции, макроэкономика, экономическое сотрудничество Ирана и России, политическая экономия, международная торговля, теории менеджмента, экономическое неравенство, управление человеческими ресурсами. 1042225184@pfur.ru

作者信息

Ismael Rezaeinejad

PhD (经济学), MBA, 研究员和商业顾问·俄罗斯人民友谊大学(RUDN)(莫斯科·俄罗斯)。 ORCID: 0000-0001-8712-7597; Researcher ID: AAQ-7811-2021; Scopus Author ID: 58075328900.

科研兴趣领域:世界经济、国际商务、数字经济、教育经济学、经济发展、经济制裁、宏观经济学、伊朗与俄罗斯的经济合作、政治经济学、国际贸易、管理理论、经济不平等、人力资源管理。 1042225184@pfur.ru

Статья поступила в редакцию 05.05.2024; после рецензирования 31.05.2024 принята к публикации 10.06.2024. Автор прочитал и одобрил окончательный вариант рукописи.

The article was submitted on 05.05.2024; revised on 31.05.2024 and accepted for publication on 10.06.2024. The author read and approved the final version of the manuscript.

文章于 05.05.2024 提交给编辑。文章于 31.05.2024 已审稿,之后于 10.06.2024 接受发表。作者已经阅读并批准了手稿的最终版本。