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Managing the Risks of Innovative Activities Focused on the Consumer Market: Competitiveness vs. Corporate Responsibility

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Abstract: Purpose This paper aims to study the specifics of managing the risks of innovative activities during the implementation of the Sustainable Development Goals (SDGs) in entrepreneurship that is focused on the consumer market in countries with different levels of income. Design/methodology/approach The research is performed with the help of regression analysis (one-factor and multiple simple linear regression). Two samples are created for this: (1) countries with high income and (2) upper middle income and countries with lower middle income, according to the classification of World Bank GNI per capita in current USD (Atlas method). Findings It is determined that priorities of the consumer market (demand) are differentiated among countries with different levels of income. In countries with high income and upper middle income, corporate social responsibility does not determine the quality of life. Only competitiveness is a milestone during the implementation of the SDGs in entrepreneurship activities focused on the consumer market. In countries with lower middle income, neither corporate responsibility nor competitiveness is the decisive factor in managing the risks of innovative activities focused on the consumer market. Originality The originality of this research consists in a new view of competitiveness and corporate responsibility from the positions of their influence on the implementation of the SDGs entrepreneurship focused on the consumer market. Social implications Due to the practical implementation of the offered recommendations for corporate management of improving the practice of managing the risks of innovative activities focused on the consumer market, the Quality of Life Index will grow by 44.95% in countries with high income and upper middle income and by 98.69% in countries with lower middle income.

Keywords: managing innovative activities; consumer market; competitiveness; corporate responsibility; sustainable development; risks; risk-management

1. Introduction

Sustainable Development Goals (SDGs) are a set of goals formulated by the UN designed to solve the key global challenges of humankind and "transform our world". Although the SDGs are diverse (they cover the economy, society, institutions, and environment), they are all united by a high and significant mission of improving the quality of life and preserving heritage for future generations. Successful implementation of the SDGs requires the involvement and active participation of entrepreneurship through building the SDGs in the corporate strategies (Popkova and Sergi 2020; Popkova et al. 2020; Popkova and Sergi 2021), which is shown in the reports of international organizations, in particular PWC (2021). The problem consists of the uncertainty of the treatment and approach to the implementation of the SDGs in entrepreneurship activities. Due to insufficient fundamental and methodological elaboration of the SDGs during their implementation by business, modern companies treat them as an increase of the level of corporate social and ecological

responsibility (Bodhanwala and Bodhanwala 2018; Dubey et al. 2019; Fiorentino et al. 2020; Sannino et al. 2020; Zhu et al. 2019; Biloslavo et al. 2020).

However, the SDGs are diverse, and an important role in their implementation in entrepreneurship activities belongs to innovations, which consequences are contradictory (Buevich et al. 2019; Nosova et al. 2019). Thus, responsible innovations do not necessarily increase consumer value and usefulness of goods and services (Matrizaev et al. 2019). For example, a lot of consumers in a given society could be more interested in the growth of quality (technical characteristics) of products and their affordability (due to innovations) than in corporate responsibility, expenditures for which (in particular, for R&D) could lead to the growth of prices and sometimes to the reduction of quality (Suglobov et al. 2020).

The formal and generalized approach to the implementation of the SDGs is inadmissible. There is a necessity for a flexible approach, which would take into account the specifics of consumer preferences in different societies. There is a need for an alternative treatment of the implementation of the SDGs in entrepreneurship activities, in which innovations must be socially oriented, i.e., oriented at the consumer market (Sozinova 2020; Fokina 2020; Tsikin et al. 2019). In the new treatment, the SDGs are considered from all positions—taking into account corporate responsibility and competitiveness, which is often not considered by companies from the positions of sustainable development (treated as responsible innovations) but ensures the growth of quality and affordability of products, i.e., it could potentially increase the companies' orientation at the consumer market (in case of the alternative treatment as socially-oriented innovations).

The following hypothesis (H$_0$) is suggested: managing the risks of innovative activities that are focused on the consumer market cannot be universal; it requires a flexible consideration of the specifics of different societies (primarily the level of income) and could be ensured using corporate responsibility and through entrepreneurship competitiveness. The paper seeks the goal of studying the specifics of managing the risks of innovative activities during the implementation of the SDGs in entrepreneurship that is focused on the consumer market in countries with different levels of income. Among the previous studies highlighting how income levels can affect the SDGs are the works of (Fu 2021; Horn and Grugel 2018; Liu 2020; Nhamo et al. 2021).

The originality of this research consists in a new view of competitiveness and corporate responsibility—from the positions of their influence on the implementation of the SDGs in entrepreneurship that is focused on the consumer market. SDG 8 "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all" and SDG 12 "Ensure sustainable consumption and production patterns" (UN 2021) are considered as a whole, and the significance of competitiveness (SDG 8 in the aspect of economic growth and productive employment) and corporate responsibility (SDG 8 in the aspect of decent work for all and SDG 12) is determined for society (with a certain level of income).

The uniqueness of this paper is ensured by performing research on the example of countries with different levels of income. Differentiation of countries by the income criterion allows identifying the differences in the significance of private (competitiveness) and public (corporate responsibility) interests for consumers and, based on this, offering the corresponding recommendation on the implementation of the SDGs in entrepreneurship focused on the consumer market in countries with different levels of income. This allows the connection between sustainable development and level of income of countries to be proven, not in the aspect of progress in the implementation of the SDGs, which is elaborated and well-known, but in the less studied aspect of managing the risks of innovative activities in entrepreneurship.

2. Literature Review

2.1. Evolution of SDGs in Literature

The SDGs are paid close attention in the existing literature. In his work, Tjoa and Tjoa (2016) highlighted the important role of ICTs in achieving the UN Sustainable Development

Goals (SDGs). Pérez et al. (2020) analyzed social responsibility in Colombia and proved the interconnections and synergies between the SDGs. Most of the existing work addresses the SDGs separately. Thus, in their work, Khaltaev and Akselrod (2021) demonstrated and proved the necessity and important role of the Global Alliance against Chronic Respiratory Diseases (GARD) in achieving the UN Sustainable Development Goals (SDG).

In turn, Madurai Elavarasan et al. (2021) presented the UN Sustainable Development Goals (SDGs) through the lens of energy sustainability (SDG 7) in the post-COVID-19 world. Zacharie et al. (2021) considered issues related to the UN SDG (2) on food security and substantiated that these issues require a priority solution in the Republic of Burundi. This allows us to determine the degree of study of the SDGs in the existing scientific literature as high.

2.2. Innovative Activities Management in Entrepreneurship in the Interests of Sustainable Development

Various aspects of the innovations management as a business process during building the SDGs in the corporate strategies are reflected in several works (Bolz and de Bruin 2019; Golini and Gualandris 2018; Kneipp et al. 2019; Martínez-Mora and Merino 2020; Ogoh and Fairweather 2019; Severo et al. 2020; Sundström et al. 2020; Yaghmaei 2018).

Thus, managing the risks of innovative activities in entrepreneurship in the interests of sustainable development has been studied in detail in the existing scientific literature, where it is treated from the positions of responsible innovations, i.e., based on corporate social responsibility. Nevertheless, the risk component of innovation, the essence, and prospects of risk management are not defined and are poorly studied. Selected issues related to the risks of innovation are discussed in the works of (Deng et al. 2021; Kliber et al. 2021; Manuylenko et al. 2021; Xie 2021).

2.3. The Existing Approach to the Implementation of the SDGs in Entrepreneurship Activities

The essence of the existing approach to the implementation of the SDGs in entrepreneurship activities has been studied in (Fischer et al. 2018; Hanohov and Baldacchino 2018; Kimuli et al. 2020; Muhammad Muneeb et al. 2020; Ogamba 2019; Quagrainie et al. 2020; Vuorio et al. 2018).

The issues of the implementation of the SDGs in entrepreneurship activities have been studied in detail and presented in multiple publications. The essence of the existing approach to the implementation of the SDGs in entrepreneurship activities consists of the increase of the level of corporate social responsibility.

2.4. Gap Analysis in the Management of Innovative Activities Focused on the Consumer Market

Competitiveness in its connection to sustainable development is studied in the works of (Afum et al. 2020; Alshubiri 2020; Karman and Savanevičienė 2020; Nadalipour et al. 2019). We see that it is considered from the positions of the economy as a whole and public administration, but separately from entrepreneurship and corporate management.

This causes incomplete (unilateral—from the positions of corporate responsibility) treatment of the implementation of the SDGs in the entrepreneurship activities during the management of innovative activities in the interests of sustainable development, and the absence of attention to competitiveness is a research gap, as well as the lack of a scientific understanding of the risks of innovation and its risk management. The specifics of sustainable development of countries with different levels of income have been studied in detail in the following publications: (Adeola et al. 2021; Ebohon et al. 2020; Jones and Comfort 2020; Pakdeechoho and Sukhotu 2018).

However, in the above works, the experience of sustainable development of countries with different levels of income is considered narrowly—only from the positions of the possibilities for the implementation of the SDGs (from the side of the offer), while from the positions of consumers' interests (from the side of demand) this experience has not been studied, which is another gap in scientific knowledge. These gaps are to be filled in this paper. Here, the management of innovative activities focused on the consumer

market (from the side of demand) is considered in view of competitiveness and corporate responsibility, with the differentiation and deep analysis of countries with different levels of income.

3. Research Design and Method

The offered hypothesis is tested with the help of regression analysis. Two samples are created for this: (1) countries with high income and (2) upper middle income and countries with lower middle income, according to the classification of World Bank (2021). Statistical data on the studied indicators are available for a limited range of countries—in particular, only for nine countries with lower middle income. To avoid the gaps in the array of data for the research (when considering countries with lower middle income for which not all data are available), and to ensure data compatibility for both samples (equal number of countries in the samples), they contain nine countries each.

The World Banks have compiled the country classification using the Atlas method, which smoothes out exchange rate fluctuations by using a three-year moving average and a price-adjusted conversion coefficient. The classification criterion is GNI per capita in current USD (Atlas method). The income boundaries are as follows:

- countries with high income: >12.695 current USD;
- countries with upper middle income: 4.096–12.695 current USD;
- countries with lower middle income: 1.046–4.095 current USD.

To substantiate the sample of countries we have developed, we will provide information on which countries make up each group and what the GNI value of each country is in order to prove that it belongs to the group of countries identified in this study. Countries with high income:

- Germany: 46.980 current USD;
- South Korea: 32.860 current USD;
- Switzerland: 87.950 current USD;
- France: 42.290 current USD;
- USA: 65.910 current USD.

    Countries with upper middle income: current USD;

- Brazil: 7.850 current USD;
- China: 10.610 current USD;
- Malaysia: 10.580 current USD;
- Russia: 10.690 current USD.

    Countries with lower middle income: current USD;

- India: 1.900 current USD;
- Philippines: 3.430 current USD;
- Nigeria: 2.000 current USD;
- Pakistan: 1.280 current USD;
- Vietnam: 2.660 current USD;
- Sri Lanka: 3.720 current USD;
- Egypt: 3.000 current USD;
- Bangladesh: 2.010 current USD;
- Kenya: 1.760 current USD.

For each sample of countries (separately), two regression dependencies are determined.

1st: dependence of the Quality of Life Index (according to Numbeo (2021)—as the indicator of entrepreneurship's orientation at the consumer market) on competitiveness (according to the World Economic Forum (2021)) and corporate responsibility (according to the Social Entrepreneurship Index of the Institute of Scientific Communications (2021)).

2nd: dependence of competitiveness and corporate responsibility (separately) on the Global Innovation Index (according to WIPO (2021)). The arrays of data for the research on both samples of countries are given in Tables 1 and 2.

Table 1. Innovations, orientation at the consumer market: competitiveness and corporate responsibility in countries with high income and upper middle income in 2021, points 0–100.

Income Category	Country	Quality of Life Index	Global Competitiveness Index	Social Entrepreneurship Index	Global Innovation Index
		QL_{HiUMi}	GC_{HiUMi}	SR_{HiUMi}	GII_{HiUMi}
High income	Germany	176.76	81.8	61.140	56.55
	South Korea	130.02	79.6	59.327	56.11
	Switzerland	190.82	82.3	62.699	66.08
	France	150.73	78.8	55.341	53.66
	USA	166.98	83.7	73.238	60.56
Upper middle income	Brazil	104.75	60.9	9.027	31.94
	China	103.15	73.9	46.685	53.28
	Malaysia	116.94	74.6	52.959	42.42
	Russia	101.67	66.7	61.147	35.63

Source: Created by the authors based on (Institute of Scientific Communications 2021; Numbeo 2021; WIPO 2021; World Economic Forum 2021).

Table 2. Innovations, orientation at the consumer market: competitiveness and corporate responsibility in countries with lower middle income in 2021, points 0–100.

Income Category	Country	Quality of Life Index	Global Competitiveness Index	Social Entrepreneurship Index	Global Innovation Index
		QL_{LMi}	GC_{LMi}	SR_{LMi}	GII_{LMi}
Lower middle income	India	104.52	61.4	54.086	35.59
	Philippines	78.39	61.9	46.773	35.19
	Nigeria	52.00	48.3	37.445	20.13
	Pakistan	105.14	51.4	37.236	22.31
	Vietnam	88.38	61.5	43.574	37.12
	Sri Lanka	79.78	57.1	38.286	23.78
	Egypt	88.31	54.5	34.634	24.23
	Bangladesh	65.27	52.1	29.760	20.39
	Kenya	75.77	54.1	36.605	26.13

Source: Created by the authors based on (Institute of Scientific Communications 2021; Numbeo 2021; WIPO 2021; World Economic Forum 2021).

The formal models of this research have the following form.
Model 1 for counties with high income and upper middle income:

$$\begin{cases} QL_{HiUMi} = F(GC_{HiUMi}, SR_{HiUMi}); \\ GC_{HiUMi} = F(GII_{HiUMi}); \\ SR_{HiUMi} = F(GII_{HiUMi}). \end{cases}$$

Model 2 for countries with lower middle income:

$$\begin{cases} QL_{LMi} = F(GC_{LMi}, SR_{LMi}); \\ GC_{LMi} = F(GII_{LMi}); \\ SR_{LMi} = F(GII_{LMi}). \end{cases}$$

The economic and mathematical idea of the hypothesis is as follows: it is necessary to determine positive regression dependencies of QL on GC, GC on GII, and SR on GII in both presented models. To ensure the maximum reliability of the results, together with the regression analysis we perform the multicollinearity test, within which the correlation of factor variables in equations $QL_{HiUMi} = F(GC_{HiUMi}, SR_{HiUMi})$ and $QL_{LMi} = F(GC_{LMi}, SR_{LMi})$ is evaluated. Also, the heteroscedasticity test (F criterion) is performed, and the correlation coefficients for all equations in both models are taken into account.

4. Findings

4.1. SDGs in the Entrepreneurship Activities Focused on the Consumer Market in Countries with Different Levels of Income

To determine the specifics of implementing the SDGs in the entrepreneurship activities focused on the consumer market in countries with high income and upper middle income based on the materials from Tables 1 and 2 within the formal model 1 we obtained the results of regression analysis, which are systematized in Table 3.

Table 3. Results of the regression analysis.

Regression Statistics	Quality of Life Model		Competitiveness Model		Social Entrepreneurship Model
	QL_{HiUMi}	GC_{HiUMi}	GC_{LMi}	GC_{LMi}	SR_{LMi}
Multiple R	0.83	0.94	0.93	0.93	0.84
Invariable	−184.58	44.06	37.42	37.42	15.52
Coefficient at GCHiUMi	4.61	0.63	0.68	0.68	0.89
Coefficient at SRHiUMi	−0.51	0.73	-	-	-

Source: Authors.

Based on the data from Table 3 we obtained the following equation of multiple linear regression:

$$QL_{HiUMi} = -184.58 + 4.61 * GC_{HiUMi} - 0.51 * SR_{HiUMi} \tag{1}$$

According to the obtained regression equation, growth of competitiveness by 1 point leads to growth of the orientation at the consumer market by 4.61 points. Growth of corporate responsibility by 1 point leads to growth of the orientation at the consumer market by 0.51 points. Therefore, corporate social responsibility does not contribute to the implementation of the SDGs in entrepreneurship activities focused on the consumer market in countries with high income and upper middle income, while the contribution is made by competitiveness, which determines the quality and price of products.

Multiple correlation equals 0.8339. Therefore, the change of the Quality of Life Index by 83.39% is due to the change of both factor variables (GC_{HiUMi} and SR_{HiUMi}), which cross-correlation equals 0.7989 (below 0.9), due to which the multicollinearity test is passed (repeat of the factor variables is avoided). Significance F constitutes 0.028—the probability of acceptance of the heteroskedasticity hypothesis. The obtained (estimate) value F (Fest) equals 6.85, and table value F (Ftabl) for $k_1 = m = 2$ (m = 2 factor variables in the model) and $k_2 = n-m-1 = 9-2-1 = 6$ (n = 9 observations, countries in the sample) at the significance level $\alpha = 0.05$ is 5.14. Since 6.85 > 5.14, the F test is passed, and Equation (1) is correct at $\alpha = 0.05$.

To determine the specifics of implementing the SDGs in the entrepreneurship activities focused on the consumer market in countries with lower middle income based on materials

from Table 2 within the formal model 2, we obtained the following equation of multiple linear regression:

$$QL_{LMi} = 6.36 + 0.83 * GC_{LMi} + 0.73 * SR_{LMi} \qquad (2)$$

According to the obtained regression equation, growth of competitiveness by 1 point leads to growth of the orientation at the consumer market by 0.83 points. Growth of corporate responsibility by 1 point leads to growth of the orientation at the consumer market by 0.73 points. Therefore, corporate social responsibility makes a lower, but also significant, contribution to implementing the SDGs in entrepreneurship activities focused on the consumer market in countries with lower middle income, together with competitiveness.

Multiple correlation is 0.5167. Therefore, the change of the Quality of Life Index by 51.67% is due to the change of both factor variables (GC_{LMi} and SR_{LMi}), the cross-correlation of which equals 0.7675 (below 0.9), due to which the multicollinearity test is passed (the repeat of factor variables is avoided). Significance F equals 0.394—this is the probability of adoption of the heteroskedasticity hypothesis. The obtained (estimate) value F (Fest) equals 1.09. Since Fest < Ftabl (1.09 < 5.14), the F test is not passed, and the obtained value (2) is not correct at the significance level $\alpha = 0.05$.

Thus, the SDGs in entrepreneurship activities focused on the consumer market in counties with different income levels are different. The specifics of countries with high income and upper middle income are as follows: corporate social responsibility does not determine the quality of life, and only competitiveness is a milestone during implementing the SDGs in the entrepreneurship activities focused on the consumer market. The specific feature of countries with lower middle income is the fact that competitiveness and corporate social responsibility positively influence the quality of life, but their influence is weak. During the implementation of the SDGs in entrepreneurship activities focused on the consumer market, they are insignificant.

4.2. Priorities of Managing the Risks of Innovative Activities in the Consumer Markets of Countries with Different Levels of Income

To determine the priorities of managing the risks of innovative activities in the consumer markets of countries with different levels of income, let us determine the regression dependence of the selected factor variables that positively influence the quality of life from Equations (1) and (2) on innovations. In countries with high income and upper middle income, based on the materials from Table 1 within the formal model 1, we obtain the following equation of multiple linear regression:

$$GC_{HiUMi} = 44.06 + 0.63 * GII_{HiUMi} \qquad (3)$$

According to the obtained regression equation, growth of innovations by 1 point leads to growth of the Global Competitiveness Index by 0.63 points. Correlation equals 0.9368. Therefore, the change of competitiveness by 93.68% is due to the change of the Global Innovation Index.

Significance F equals 0.0002—this is the probability of the adoption of the heteroskedasticity hypothesis. The obtained (estimate) value F (Fest) equals 50.189, and table value F (Ftabl) for $k_1 = m = 1$ (m = 1 factor variable in the model) and $k_2 = n-m-1 = 9-1-1 = 7$ (n = 9 observations, countries in the sample) at the significance level $\alpha = 0.05$ equals 5.59. Since 50.189 > 5.59, the F test is passed, and Equation (3) is correct at $\alpha = 0.05$.

In countries with lower middle income, based on materials from Table 2 within the formal model 2, the following equations of multiple linear regression are obtained:

$$GC_{LMi} = 37.42 + 0.68 * GII_{LMi} \qquad (4)$$

According to the obtained regression equation, growth of innovations by 1 point leads to growth of the Global Competitiveness Index by 0.68 points. Correlation equals 0.9331.

Therefore, the change of competitiveness by 93.31% is due to the change of the Global Innovation Index.

Significance F equals 0.00024—this is the probability of adopting the heteroskedasticity hypothesis. The obtained (estimate) value F (Fest) equals 47.142. Since 47.142 > 5.59, the F test is passed, and Equation (4) is correct at $\alpha = 0.05$.

$$SR_{LMi} = 15.52 + 0.89 * GII_{LMi} \tag{5}$$

According to the obtained regression equation, growth of innovations by 1 point leads to growth of the Social Entrepreneurship Index by 0.89 points. Correlation equals 0.8443. Therefore, the change of corporate social responsibility by 84.43% is due to the change of the Global Innovation Index.

Significance F equals 0.0042—this is the probability of adoption of the heteroskedasticity hypothesis. The obtained (estimate) value F (Fest) equals 17.378. Since 17.378 > 5.59, the F test is passed, and Equation (5) is correct at $\alpha = 0.05$.

Thus, the priorities of managing the risks of innovative activities in the consumer markets of countries with different levels of income are different. In countries with high income and upper middle income, the priority is the growth of competitiveness, and in countries with lower middle income, competitiveness, and corporate social responsibility are milestones, but not priorities, as they contribute moderately to the increase of the quality of life.

5. Discussion

Based on the obtained results of the regression analysis, the formal model 1 is clarified in countries with high income and upper middle income, and the following systems of equations are obtained:

$$\begin{cases} QL_{HiUM} = -184.58 + 4.61 * GC_{HiUMi} - 0.51 * SR_{HiUMi} \\ GC_{HiUMi} = 44.06 + 0.63 * GII_{HiUMi} \end{cases}$$
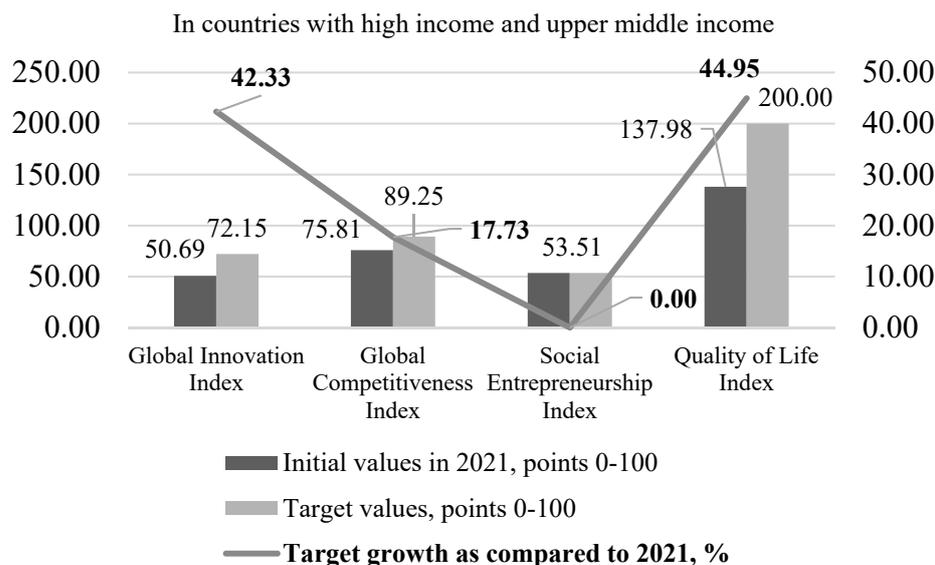
According to this system of equations, the perspectives of improving the practice of managing the risks of innovative activities focused on the consumer market in countries with high income and upper middle income are determined. For this, "Search for solution" is Excel is used to solve two optimization tasks with the following conditions:

- In the 1st task, the optimization goal is as follows: find the value of GC_{HiUMi} (changed variable) and which QL_{HiUMi} (target function) reaches the maximum possible level (200 points). Limitation of the optimization: $GC_{HiUMi} \leq 100$ (should not exceed its maximum possible value);
- In the 2nd task, the optimization goal is as follows: find such value of GII_{HiUMi} (changed variable) at which GC_{HiUMi} (target function) reaches the previously determined optimal value from the 1st task. Limitation of the optimization: $GII_{HiUMi\ i} \leq 100$ (should not exceed its maximum possible value).

The solution of the above two tasks is shown in Figure 1.

As shown in Figure 1, the management implication for improving the practice of managing the risks of innovative activities focused on the consumer market in countries with high income and upper middle income is the increase of the Global Innovation Index from 50.69 points to 72.15 points (solution to the second optimization task), i.e., by 42.33%.

Due to this, the Global Competitiveness Index will grow from 75.81 points to 89.25 points (solution to the 1st optimization task), i.e., by 17.73%. If the Social Entrepreneurship Index remains unchanged, this will increase the Quality of Life Index from 137.98 points to a target maximum of 200 points, i.e., by 44.95%.

Figure 1. Perspectives of improving the practice of managing the risks of innovative activities focused on the consumer market in countries with high income and upper middle income. Source: Calculated and compiled by the authors.

Based on the obtained results of the regression analysis, the formal model 2 is clarified in countries with lower middle income, and the following system of equations is obtained:

$$\begin{cases} QL_{LMi} = 6.36 + 0.83 * GC_{LMi} + 0.73 * SR_{LMi} \\ GC_{LMi} = 37.42 + 0.68 * GII_{LMi} \\ SR_{LMi} = 15.52 + 0.89 * GII_{LMi} \end{cases}$$
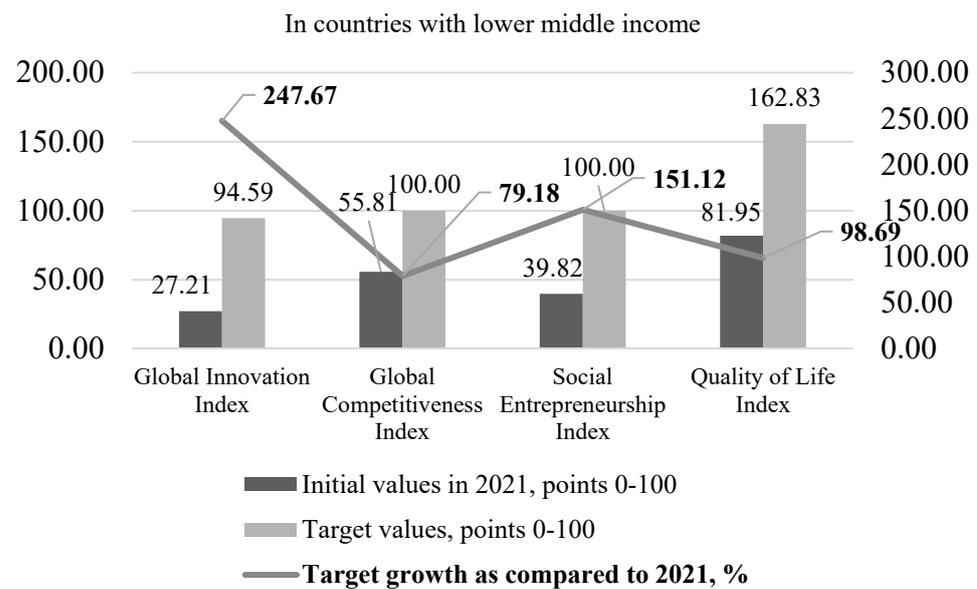
According to the given system of equations, the perspectives of improving the practice of managing the risks of innovative activities focused on the consumer market in countries with lower middle income are determined. For this, "Search for solution" is Excel is used to solve two optimization tasks with the following conditions:

- In the 1st task, the optimization goal is as follows: find a combination of the values of GC_{LMi} and SR_{LMi} (changed variables) at which QL_{LMi} (target function) reaches the maximum level. Limitations of the optimization: $QL_{LMi} \leq 200$, $GC_{LMi} \leq 100$, and $SR_{LMi} \leq 100$, i.e., all variables should not exceed their maximum possible values;
- In the 2nd task, the optimization goal is as follows: find such value of GII_{LMi} (changed variable) at which GC_{LMi} and SR_{LMi} (target function) reach the previously determined optimal values from the first task. Limitation of the optimization: $GII_{LMi} \leq 100$ (should not exceed its maximum possible value).

The solution of the above two tasks is shown in Figure 2.

Based on Figure 2, the management implication on improving the practice of managing the risks of innovative activities focused on the consumer market in countries with lower middle income is the increase of the Global Innovation Index from 27.21 points to 94.59 points (solution of the second optimization task), i.e., by 247.67%.

Due to this, the Global Competitiveness Index grows from 55.81 points to 100 points (solution of the first optimization task), i.e., by 79.18%, and the Social Entrepreneurship Index grows from 39.82 points to 100 points (solution of the first optimization task), i.e., by 151.12%. This will increase the Quality of Life Index from 81.95 points to 162.83 points, i.e., by 98.69%. This means and emphasizes that in countries with lower middle income, the possibilities for optimization of the practice of managing the risks of innovative activities focused on the consumer market are limited.

In countries with lower middle income

Figure 2. Perspectives of improving the practice of managing the risks of innovative activities focused on the consumer market in countries with lower middle income. Source: Calculated and compiled by the authors.

6. Conclusions

Thus, the offered hypothesis (H_0) has been proved; it has been confirmed that the priorities of the consumer market (demand) are differentiated among countries with different levels of income. This requires a refusal from universalization and requires the use of a flexible approach to managing the risks of innovative activities focused on the consumer market, which would take into account the specifics of countries with different levels of income.

In countries with high income and upper middle income, corporate social responsibility does not determine the quality of life (which is proved by the negative regression), and, contrary to the existing idea of the priority of corporate responsibility, only competitiveness is a milestone during the implementation of the SDGs in the entrepreneurship activities focused on the consumer market. Thus, an increase of the value of the Global Competitiveness Index by 1 point leads to growth of the value of the Quality of Life Index by 4.61 points. On the whole, the two considered management tools (competitiveness and corporate responsibility) in countries with high income and upper middle income determine by 83.39% (multiple correlation) the success of managing the risks of innovative activities focused on the consumer market.

In countries with lower middle income, the management of innovative activities focused on the consumer market is more specific. Neither corporate responsibility nor competitiveness is the decisive factor in managing the risks of innovative activities focused on the consumer market in these countries. Though in both cases we see the positive regression dependence of the quality of life on these management tools (0.73 points and 0.83 points, accordingly), they determine the change of the result (quality of life) of managing the risks of innovative activities focused on the consumer market only by 51.67% (multiple correlation).

The obtained regression equation is insufficiently reliable (it hasn't passed the F test and has a high—0.394—the probability of adopting the heteroskedasticity hypothesis). This means that in countries with lower middle income, the management of innovative activities during the implementation of the SDGs focused on the consumer market is determined by other factors that go beyond the limits of this research.

The received results allow specifying the essence of the treatment of the SDGs during their implementation in the entrepreneurship activities focused on the consumer market. SDG 12 is treated as stable (deficit-free) consumption, and SDG 8 envisages maximization of

the contribution of entrepreneurship to the acceleration of economic growth and provision of productive employment for the growth of global competitiveness to increase quality and affordability of products for consumers, which allows raising the quality of life in countries with high income and upper middle income.

In countries with lower middle income, the orientation at the consumer market does not envisage the implementation of SDG 8 or SDG 12 in entrepreneurship activities. This is a sign of contradiction of the current formulation of these two SDGs to society's interests in countries with lower middle income. Research implications of this conclusion include the necessity for the search for more significant priorities of society in these countries and more significant management tools to observe these priorities in entrepreneurship. When building SDG 8 and SDG 12 in the corporate strategies, it is necessary to take into account this feature of countries with lower middle income.

Practical (for corporate management) implications include substantiating the perspectives and developing the applied recommendations to improve the practice of managing the risks of innovative activities focused on the consumer market in countries with different levels of income. In countries with high income and upper middle income, it is recommended to increase the Global Innovation Index by 42.33%, due to which the Global Competitiveness Index will grow by 17.73%. In countries with lower middle income, it is recommended to increase the Global Innovation Index by 247.67%. This will lead to the growth of the Global Competitiveness Index by 79.18% and the Social Entrepreneurship Index by 151.12%.

Social implications are as follows: thank the practical implementation of the offered recommendations for corporate management of the improvement of the practice of managing the risks of innovative activities focused on the consumer market, the Quality of Life Index will grow by 44.95% in countries with high income and upper middle income and by 98.69% in countries with lower middle income.

It should be noted that research limitations include the following aspect: experience of countries with low income has not been studied in this paper because of the absence of data for almost all indicators. The deficit of the statistical data causes uncertainty as to the specifics and perspectives of managing the risks of innovative activities in entrepreneurship focused on the consumer market in low-income countries. The obvious risk of this uncertainty is the insufficient adaptation of the SDGs in entrepreneurship activities to the specifics of the poorest countries and, accordingly, low results in the sphere of sustainable development.

The contribution of the article to the literature consists in rethinking innovative activity from the standpoint of risk and the development of applied recommendations in the field of improving the practice of risk management of this activity. The article corresponds, develops, and supplements the provisions of the Theory of Innovation, Theory of Management, and Theory of Risk. During further research, it is expedient to study the experience of low-income countries with the use of alternative data. It is also recommended to continue the scientific search for the prospective tools of managing the risks of innovative activities focused on the consumer market in countries with lower middle income, expanding the limits of the search beyond competitiveness and corporate responsibility.

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