
Sustainable Development Management and Strategic Awareness of the Metropolis GZM Inhabitants

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Abstract:

Purpose: The main objective of the research was to diagnose and analyse the level of understanding sustainability and strategic awareness, as well as prioritization of United Nations Sustainable Development Goals (UN SDG) among the Metropolis GZM inhabitants.

Design/Methodology/Approach: Taking into account managerial approach the main research methods which were used in the study were literature review, diagnostic survey research and basic statistical analysis. The study was conducted on the basis of a survey questionnaire, using the CAWI method with selected research sample of 3301 respondents - Metropolis GZM inhabitants. The research results were presented in a comparative approach, both for the entire representative population of the Metropolis GZM and in cross-sectional approaches, which include specifics by gender, age, place of residence or diagnosed level of life satisfaction.

Findings: The concept of "sustainable local development" was practically understood by Metropolis GZM inhabitants, most important UN SDG were diagnosed. The level of knowledge of Metropolis GZM inhabitants about their municipal strategy was presented for the groups of cities (relatively big, medium and small) and for all the cities with country rights individually. To analyse strategic awareness in Metropolis GZM for cities with county

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rights or group of cities new strategic awareness indicator (SAI) was proposed both from methodological indicator construction and its interpretation.

Practical Implications: *The results of the research can be used, among others, by local authorities as a guide for shaping development policies in line with the expectations of the inhabitants of the Metropolis GZM, both in terms of content relating to the practical understanding of sustainable development and the UN SDG, as well as in organizational and promotional terms referring to the level of strategic awareness related to the development strategy and the process of its creation. The results are also the basis for further in-depth research, taking into account, among other, comparative possibilities with other domestic and foreign metropolitan areas and the evolution of the studied phenomena over time.*

Originality/Value: *One of the first and biggest survey regarding all the Metropolis GZM related to strategic awareness, UN SDG prioritization and understanding sustainability; new authors' Strategic Awareness Indicator (SAI) was proposed, used and interpreted.*

Keywords: *Sustainability, strategic awareness, United Nations Sustainable Development Goals, Metropolis GZM.*

JEL Classification: *Q01, Q28.*

Paper type: *Research article.*

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1. Introduction

The main objective of the article is the new state of knowledge in the field of sustainable development management and strategic awareness for the first and largest metropolis in Poland, together with a set of useful recommendations for local development policies.

With regard to sustainable development, this goal has been decomposed into two sub-goals covering the new state of knowledge and useful recommendations in the field of understanding the concept of sustainable development and prioritizing the UN Sustainable Development Goals (UN SDG) (Transforming Our World: The 2030 Agenda For Sustainable Development).

In addition, the specific objective is to determine the level of strategic awareness, understood as the degree of involvement in the process of creating or consulting local development policies and knowledge about the development strategy of one's municipality. All these goals are connected with sustainable local development, what was shown on Figure 1 below.

Figure 1. Decomposition of sustainable local development.



Source: Own elaboration.

Sustainable local development can be defined in many ways and the concept of SLD correspond to environmental sciences, agriculture and social sciences such as economics. However, the diversity of topics with which this concept is linked is so great that it demonstrates its multidisciplinary nature, which manifest itself in a holistic vision of knowledge in favour of the sustainable evolution of society.

Therefore, the ultimate goal of achieving territorial resilience must be achieved with a holistic view of the capacities and resources of the territories, which requires a cooperative effort: collaborative work between the branches of knowledge to improve the competitiveness of the territory and, therefore, its resilience in the face of external disturbances (Milán-García, Uribe-Toril, Ruiz-Real, and Valenciano 2019, p. 14).

Also in conception of Smart City, the highest, fourth stage in development of smart cities is a City that takes advantage of the opportunities offered by sustainable development (Makieła, Stuss, Mucha-Kuś, Kinelski, Budziński, Michałek, 2022; Kupczyk, 2022).

This approach is also related to the search for new models and tools for shaping development by city authorities. Based on the ideas provided by the Smart City concept and the concept of 4T capitals (talent, tolerance, technology, trust), and in particular issues related to increasing the participation of residents in shaping local development policies and the comprehensive use of modern technologies – both to

improve the accessibility of residents to urban services as well as to increase the influence of residents on the future of their city (Budziński, Raczek, Wrana, 2022).

The growing pressure to implement sustainable development and ESG in companies (organizations) is also confirmed by the Synergist report (Trends and anti-trends in the implementation of sustainable transformation of organizations in 2024). With relations to decomposition of sustainable local development three main research questions were asked:

Q1. How the concept of "sustainable local development" is practically understood by Metropolis GZM inhabitants?

Q2. Which United Nations Sustainable Development Goals are the most important for Metropolis GZM inhabitants from the point of view of the quality of life in the municipality?

Q3. What is the level of knowledge of Metropolis GZM inhabitants about their municipal strategy?

2. Characteristics and Research Hypothesis

In the literature on the subject, the term metropolis is usually identified with a large city, which is defined as a city with more than 100,000 inhabitants (Szymańska, 2007; 2009 p. 80). However, as Piotr Korcelli notes, although metropolis and large city refer to a large urban centre, their other features are emphasised (Korcelli and Korcelli-Olejniczak, 2018).

And so, in the case of a large city, it is measured by the number of its population, and in the case of metropolises – the range of the city's influence and higher-order functions performed for the benefit of the surrounding regions and countries (Budziński and Mucha-Kuś, 2022, p 127-151; Kadłubek *et al.*, 2022).

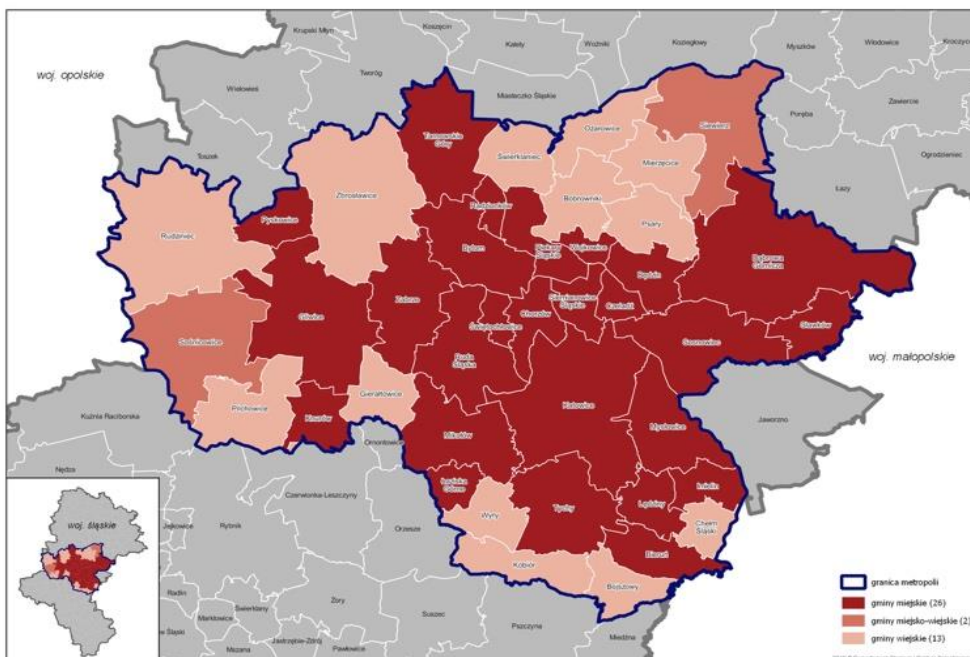
In the literature on the subject, the concept of metropolis is used interchangeably with the concept of metropolitan area. According to the definition contained in Article 2 of the Act of 27 March 2003 on Spatial Planning and Development, a metropolitan area is "the area of a large city and its functionally related immediate surroundings, determined in the concept of spatial development of the country".

The subject of this research is the Metropolis GZM. It is also worth to add, that total area of Metropolis GZM is 2,500 sq km, where 2.1 million residents live, with 270,000 companies and enterprises, generating approx. 8 percent of our country's GDP. The implementation of four statutory tasks of Metropolis GZM including public transport, socio-economic development, developing spatial order and promotion began on 1 January 2018. (<https://metropoliagzm.pl/en/metropolia-dzis>).

The GZM comprises 13 cities with county rights, (*gminy miejskie – miasta na prawach powiatu*) 13 urban municipalities (*gminy miejskie*), 2 urban-rural

municipalities (*gminy miejsko-wiejskie*), and 13 rural municipalities (*gminy wiejskie*) (Figure 2).

Figure 2. The area of the Metropolis GZM and types of municipalities.



Source: <https://noweinfozgm.metropoliagzm.pl/mapy/mapy-rastrowe-i-grafiki/>.

It is also necessary to explain, that part of the analysis and data related to the strategic awareness is presented including respondents' place of residence. In this approach study focuses on 13 out of 41 municipalities, which consist of Metropolis GZM – it is 13 cities with county rights. All this cities were divided into three groups: relatively big, medium and small cities. The population by place of residence as at 31 December 2023 was adopted as a criterion for selecting these cities for one out of three groups:

- a) big cities with more than 150 000 inhabitants: Katowice 279290, Sosnowiec 187115, Gliwice 169915, Zabrze 153838,
- b) medium cities with more than 100 000 less than 150 000 inhabitants: Bytom 147759, Ruda Śląska 130302, Tychy 122045, Dąbrowa Górnicza 113460, Chorzów 100593,
- c) small cities with less than 100 000 inhabitants: Mysłowice 71280, Siemianowice Śląskie 63401, Piekary Śląskie 51707, Świętochłowice 45434.

All data was obtained from the official statistical portal – Local Data Bank (bdl.stat.gov.pl)

The study set out three main hypotheses:

H1. The concept of "sustainable local development" is mostly understood by Metropolis GZM inhabitants as development that harmoniously takes into account social, economic and environmental aspects.

H2. Good health and well-being is the most important for Metropolis GZM inhabitants from the point of view of the quality of life in the municipality among all seventeen United Nations Sustainable Development Goals.

H3. At least 2/3 of Metropolis GZM inhabitants do not have any knowledge and interest about their municipal strategy or have basic knowledge only that the city has a strategy.

There additional hypotheses were created regarding strategic awareness:

H4. Metropolis GZM inhabitants with a high life satisfaction have more knowledge and interest about their municipal strategy and Metropolis GZM inhabitants with a low life satisfaction have less knowledge and interest about their municipal strategy.

H5. The youngest Metropolis GZM inhabitants (age 18-24) in comparison to the oldest one (age 55+) have less knowledge and interest about their municipal strategy.

H6. Metropolis GZM inhabitants in big cities have the lowest strategic awareness gap.

3. Materials and Methods

3.1 Sample and Data Collection

The study was conducted on the basis of a survey questionnaire, using the CAWI method with selected and representative research sample of 3301 respondents - Metropolis GZM inhabitants. The Metropolis GZM, which is located in southern Poland in the central part of Silesian Voivodship consist of 41 cities and communes and respondents came from all the municipalities of Metropolis GZM. Basic data collection took place in June 2023, after that basic statistical analysis were made.

The data were collected by the ARIADNA panel. The participants were enrolled in a reward system (prizes) and were not directly rewarded financially. All respondents were adults – 18 years old or more.

The study protocol was approved by the University Research Committee at the Academy of Silesia, Katowice, Poland, resolution no. Nr 05/KEBN/2023. The study followed the ethical requirements of anonymity and voluntary participation. Written

informed consent was obtained from each participant before inclusion. The costs of conducting this research were co-financed by the Metropolis GZM under the "Metropolitan Science and Education Support Fund" program in 2022-2024 within the granted project "Challenges of Public Space and Social Cohesion of the Metropolis GZM in Poland - An interdisciplinary approach".

3.2 Measures and Variables Definitions

The research results were presented in a comparative approach, both for the entire representative population of the Metropolis GZM and in cross-sectional approaches, which include specifics by gender, age, place of residence or diagnosed level of life satisfaction.

To measure life satisfaction understood as the result of comparing one's own situation with self-established standards and a key factor of well-being, the SWLS Life Satisfaction Scale (Diener *et al.*, 1985) in the Polish adaptation (Jurczyński 2009) was used. The reliability of the scale in this study was high, and Cronbach's α index was 0.911. Table 1 below presents detail information.

Table 1. Life Satisfaction Scale with polish interpretation SWLS: temporary Polish standards (N=555)

Result	Sten	Interpretation
31 - 35	10	High scores: 7 - 10 sten (24-35 points) (high life satisfaction)
29 - 30	9	
27 - 28	8	
24 - 26	7	
21 - 23	6	Medium / average scores: 5-6 sten (18-23 points) (medium/average life satisfaction)
18 - 20	5	
15 - 17	4	Low scores: 1-4 sten (5-17 points) (low satisfaction with life)
12 - 14	3	
10 - 11	2	
5 - 9	1	

Source: Juczyński, Z. (2009). *Narzędzia pomiaru w promocji i psychologii zdrowia (Measurement instruments in the promotion and psychology of health)*. Warszawa: Pracownia Testów Psychologicznych PTP.

According to this approach it is also important to present, that 809 respondents (24,5%) declared low life satisfaction, 1306 respondents (39,6%) had medium life satisfaction and 1186 respondents (35,9%) declared high life satisfaction.

4. Data Analysis

Most data were able to be presented and analysed with comparison to the others after basic statistical methods. It is worth to mention, that to analyse strategic awareness

in Metropolis GZM (cities with county rights or group of cities) new strategic awareness indicator (SAI) was proposed:

$$SAI = (LK+BK) - (IK+ICC)$$

where:

- LK - lack of knowledge and interest in a strategy (%),
- BK - basic knowledge, only that the city has a strategy (%),
- IK - intermediate knowledge - reading some parts of a strategy (%),
- ICC - involvement in the process of creating or consulting a strategy (%).

Thanks to the indicator it is possible to rank the cities. On the other hand it shows the strategical knowledge gap, because empirically (LK+BK) are usually higher then (IK+ICC). It is presented in percentage and interpretation of SAI is: the lowest value it has the better it is or the lowest value it has the smaller strategical knowledge gap it is.

5. Results

The results of the research were presented each time referring to the total number of respondents as well as their division by gender, age and level of life satisfaction which was low, medium or high. Table 2 below shows understanding the concept of "sustainable local development" among the inhabitants of Metropolis GZM.

Table 2. *Understanding the concept of "sustainable local development" among the inhabitants of Metropolis GZM*

Understanding sustainability	Respondents (%)										
	total	level of life satisfaction			gender		age (years)				
		low	medium	high	women	men	18-24	25-34	35-44	45-54	55+
development that harmoniously takes into account social, economic and environmental aspects	45,2	46,1	47,2	42,3	43,0	47,5	40,0	44,5	49,1	48,8	44,2
development that respects current needs without overusing resources for future generations	26,1	24,0	24,6	29,4	28,3	23,8	29,2	25,4	21,9	24,6	27,9
development based on responsible management of resources	16,3	16,6	16,8	15,5	14,7	18,0	16,0	21,5	16,9	14,8	14,3
development based on environmental and ecological values	12,4	13,3	11,5	12,8	14,0	10,7	14,8	8,6	12,1	11,8	13,6

Source: *Own elaboration based on research results.*

It is clearly seen, that in all detailed categories understanding sustainability as development that harmoniously takes into account social, economic and environmental aspects is the most popular. More than 45% of all respondents in total declared so, but it is also interesting that the youngest respondents under 24 years have chosen that definition only in 40% in comparison to the people in the ages 35-44 – almost half of them declared so. This approach is also more preferable by men and by respondents with medium life satisfaction.

Moreover understanding sustainable local development as a development that respects current needs without overusing resources for future generations was more likely chosen by the respondents with high life satisfaction and by the youngest one - more than 29% with the comparison to the average for all respondents, which is more than 3% lower. In total this approach was also more likely chosen by women.

Additionally respondents in the age 25-34 years more likely than in all other age groups and 5% more likely than answers in total understand sustainability as development based on responsible management of resources. On the other hand they almost 4% less likely in comparison to all the respondents choose development based on environmental and ecological values.

Respondents were also asked about UN SDG prioritization. Table 3 below shows importance of UN SDG goals from the point of view of the quality of life in the municipality among the inhabitants of Metropolis GZM.

Table 3. United Nations Sustainable Development Goals (UN SDG) prioritization - importance of goals from the point of view of the quality of life in the municipality

UN SDG prioritization	Respondents (%)										
	total	level of life satisfaction			gender		age (years)				
		low	medium	high	women	men	18-24	25-34	35-44	45-54	55+
good health and well-being	21,9	22,5	22,0	21,3	22,1	21,6	17,9	20,8	18,6	21,4	26,0
decent work and economic growth	12,9	15,8	12,3	11,6	13,0	12,9	9,4	13,9	10,6	17,5	12,9
no poverty	11,6	13,6	10,6	11,5	10,7	12,6	11,5	11,1	16,0	12,0	9,7
zero hunger	9,5	7,0	10,8	9,6	8,3	10,7	10,7	10,6	10,4	9,9	7,7
clean water and sanitation	5,5	5,6	5,2	5,8	5,5	5,5	5,5	5,5	5,0	5,7	5,7
peace, justice and strong institutions	5,4	4,3	5,5	6,0	5,6	5,1	5,8	3,6	3,5	5,3	7,0
quality education	4,7	4,1	4,3	5,5	4,7	4,6	6,2	5,3	5,8	2,5	4,2
affordable and clean energy	4,5	4,4	4,2	5,0	3,9	5,3	4,9	5,1	4,3	3,4	4,8
climate action	4,3	3,8	4,1	4,7	4,8	3,7	4,1	4,2	3,3	2,7	5,6
industry, innovation and infrastructure	4,0	4,3	4,1	3,7	4,4	3,6	3,9	2,9	7,2	4,4	2,9
sustainable cities and communities	3,9	4,1	4,5	3,1	4,2	3,6	3,5	3,5	4,1	4,1	4,1

communities											
responsible consumption and production	3,6	4,1	3,4	3,5	4,1	3,1	3,1	3,3	3,2	4,9	3,5
gender equality	3,0	1,6	3,1	4,0	3,6	2,4	4,9	3,3	3,9	2,5	1,9
reduced inequality	2,5	3,0	2,6	1,9	2,4	2,5	3,9	2,9	1,7	1,9	2,2
partnership for the goals	1,1	0,7	1,5	1,0	1,4	0,8	1,6	1,6	0,7	1,1	0,9
life on land	0,9	0,7	1,0	0,8	0,9	0,9	1,2	1,6	0,9	0,5	0,5
life below water	0,7	0,2	0,8	0,8	0,4	1,0	1,9	0,7	0,7	0,4	0,3

Source: Own elaboration based on research results.

More than half of respondents have chosen four out of seventeen UN SDG. The most important one was “good health and well-being” with 21,9%. In total as well as in all genders and levels of life satisfaction for more than 21% of respondents it was the most important UN SDG. Quite big differences are shown regarding the age. The youngest respondents declared no more than 18%, but on the other hand for the oldest ones it was 26%.

Second most important goal was decent work and economic growth with total value 12,9%. For people with low life satisfaction it was even more important (15,8%), for those with high life satisfaction over 4 % less (11,6%). More than 8% difference was also between the youngest respondents (9,4%) and people in the age 45-54 years (17,5%). Third goal “no poverty” with 11,6 % in total was the most important for respondents in the age 43-45 years and the less important for the oldest one 9,7%. Fourth goal was “zero hunger” with total value 9,5%.

Rest thirteen UN SGD received in total no more than 5.5%, but in some age groups answers were sometimes higher, for example 7,2% respondents in the age 35-44 years indicated “industry, innovation and infrastructure” or 6,2% the youngest respondents voted for “quality education”.

Third important study approach was recognition of strategic awareness. Strategic awareness plays a critical role in the process of decision-making in small enterprises and it is considered a skill for entrepreneurs that assist them in the strategies formulation stage and determining the best strategies path to execute the strategy (Haraisa, 2022 p. 42-55; Pencarelli *et al.*, 2009).

In relation to municipalities it may be defined as a level of municipal strategy knowledge and involvement in the process of creating or consulting a strategy among citizens. This level of municipal strategy knowledge among Metropolis GZM inhabitants was decomposed into four stages:

- a) LK - lack of knowledge and interest in a strategy,
- b) BK - basic knowledge, only that the city has a strategy,
- c) IK - intermediate knowledge - reading some parts of a strategy,

d) ICC - involvement in the process of creating or consulting a strategy.

Detail information about respondents' answers on strategic awareness understood as a knowledge about the development strategy of his/her municipality in Metropolis GZM was presented below in Table 4.

Table 4. Strategic awareness - knowledge about the development strategy of municipality in Metropolis GZM

Strategic awareness – level of municipal strategy knowledge	Respondents (%)										
	total	level of life satisfaction			gender		age (years)				
		low	medium	high	women	men	18-24	25-34	35-44	45-54	55+
lack of knowledge and interest in a strategy	30,3	34,0	30,6	27,5	31,7	28,7	40,7	30,1	30,5	31,4	25,0
basic knowledge, only that the city has a strategy	44,8	44,6	45,9	43,7	43,6	46,1	35,5	42,3	42,4	46,6	50,4
intermediate knowledge - reading some parts of a strategy	21,5	18,4	20,4	25,0	20,9	22,2	20,1	24,5	22,7	19,6	21,2
involvement in the process of creating or consulting a strategy	3,4	3,0	3,2	3,9	3,8	3,0	3,7	3,1	4,5	2,3	3,4

Source: Own elaboration based on research results.

More than $\frac{3}{4}$ of all respondents in total were not interested in municipal strategy; they had lack of knowledge on this topic (more than 30%), or had just a basic knowledge, that their municipality has a development strategy (almost 45%). Regarding lack of knowledge and interest in a strategy significant difference over 15% is between the oldest and the youngest respondents.

Over 40% of inhabitants in the age 18-24 years had no knowledge or interest in a strategy, for the group in the age 55 years or more it was only 25%. There are also quite huge differences in this field between people with high and low life satisfaction (34%) and high life satisfaction (27,5%). Additionally intermediate knowledge, which means reading some parts of a strategy, declared in total 21,5% and 3,4% in total were involved in the process of creating or consulting a strategy.

Another important issue is to analyse strategic awareness - knowledge about the development strategy of municipality in cities with county rights of Metropolis GZM. Table 5 below presents detail information for each city.

Moreover next Table 6 presents knowledge about the development strategy of municipality in groups of cities with county rights (big, medium, small) of Metropolis GZM as an average respondents' answer in each group of cities with county rights (%).

Table 5. *Strategic awareness - knowledge about the development strategy of municipality in cities with county rights of Metropolis GZM*

Strategic awareness – level of municipal strategy knowledge	Respondents in cities with county rights (%)												
	Big cities				Medium cities					Small cities			
	Katowice	Sosnowiec	Gliwice	Zabrze	Bytom	Ruda Śląska	Tychy	Dąbrowa Górnicza	Chorzów	Mysłowice	Siemianowice Śląskie	Piekary Śląskie	Świętochłowice
lack of knowledge and interest in a strategy	33,3	24,8	33,1	31,7	31,9	30,1	23,6	27,1	29,0	35,9	29,4	34,5	29,5
basic knowledge, only that the city has a strategy	45,7	50,0	40,5	37,1	41,6	45,5	56,9	45,7	50,7	41,4	41,2	39,3	43,7
intermediate knowledge - reading some parts of a strategy	17,1	21,6	23,5	25,3	22,3	19,9	18,1	24,3	16,7	18,8	27,1	22,6	21,4
involvement in the process of creating or consulting a strategy	3,9	3,6	2,9	5,9	4,2	4,5	1,4	2,9	3,6	3,9	2,3	3,6	5,4

Source: *Own elaboration based on research results.*

There are quite big differences among the cities; for example the lowest level of strategic awareness understood as lack of knowledge and interest in a strategy declared almost 36% inhabitants of Mysłowice, and less than 25% in Sosnowiec.

Taking into consideration lack of knowledge and interest together with basic knowledge only that a city has strategy differences are also quite large - 68,8% of Zabrze inhabitants and on the other hand 80,5% of respondents in Tychy.

These same cities are on the two extremes when it comes to the analysis of involvement in the process of creating or consulting the strategy – the highest was in Zabrze (5.9%) and the lowest in Tychy (1.4%). There is also 10% difference among people with intermediate knowledge - reading some parts of a strategy – the lowest level is in Katowice (17,1%) and the highest in Siemianowice Śląskie (27,1%).

Strategic awareness is also presented as a knowledge about the development strategy of municipality in groups of cities with county rights of Metropolis GZM. All thirteen cities were divided into three groups – relatively big (over 150000 inhabitants), medium (more than 100000 less than 150000 inhabitants) and relatively small (less than 100 000 inhabitants).

Average respondents' answer for one group was created including the rates for each city in the group. Detail information for all the groups is presented on Table 6 below.

Table 6. Strategic awareness - knowledge about the development strategy of municipality in groups of cities with county rights of Metropolis GZM

Strategic awareness – level of municipal strategy knowledge	Average respondents' answer in group of cities with county rights (%)		
	Big cities	Medium cities	Small cities
lack of knowledge and interest in a strategy	30,7%	28,4%	32,3%
basic knowledge, only that the city has a strategy	43,3%	48,1%	41,4%
intermediate knowledge - reading some parts of a strategy	21,9%	20,2%	22,5%
involvement in the process of creating or consulting a strategy	4,1%	3,3%	3,8%

Source: Own elaboration based on research results.

According to this data Strategic Awareness Indicator (SAI) can be calculated both for the groups of cities or for all the cities individually. For the group of cities the lowest SAI rate is for small cities (37,6%), which means that strategic awareness gap is relatively low. Big cities with the SAI 39,3% were on the second place, and the biggest strategic awareness gap and the lowest position is for medium cities (44,8%). SAI were also calculated to rank all the cities individually with county rights of Metropolis GZM. It is presented in Table 7 below.

Table 7. Strategic Awareness Indicator for the cities with county rights of Metropolis GZM

Rank	City with county rights	Strategic Awareness Indicator
1	Zabrze	31,2%
2	Piekary Śląskie	35,7%
3	Bytom	37,4%
4	Mysłowice	37,5%
5	Gliwice	37,6%
6	Świętochłowice	38,4%
7	Siemianowice Śląskie	38,8%
8	Ruda Śląska	41,0%
9	Katowice	41,8%
10	Dąbrowa Górnicza	42,9%
11	Sosnowiec	46,4%
12	Chorzów	47,1%
13	Tychy	55,6%

Source: Own elaboration based on research results.

Thanks to the Indicator it is clearly seen not only the rank of each city but also the difference between them (advantage over or distance to). According to the SAI all the cities can be divided into: Current leader (Zabrze), Chasing group – no more than 40% SAI (Piekary Śląskie, Bytom, Mysłowice, Gliwice, Świętochłowice and Sieminowice Śląskie), Work to do group 40-50% SAI: (Ruda Śląska, Katowice, Dąbrowa Górnicza, Sosnowiec and Chorzów). Last place is currently for the city of Tychy.

6. Discussion and Conclusion

The results above allowed to answer all research questions and to prove or deny each of the hypothesis.

The concept of "sustainable local development" is practically understood by Metropolis GZM inhabitants mostly as a development that harmoniously takes into account social, economic and environmental aspects. Good health and well-being was most important United Nations Sustainable Development Goals the for Metropolis GZM inhabitants from the point of view of the quality of life in the municipality.

The level of knowledge of Metropolis GZM inhabitants about their municipal strategy was presented for the groups of cities (relatively big, medium and small) and for all the cities with county rights individually. The highest rank (the smallest strategic awareness gap) was in Zabrze and taken into consideration group ranking – small cities were the best ones.

It is also worth to remember, that to analyse strategic awareness in Metropolis GZM for cities with county rights or group of cities new strategic awareness indicator (SAI) was proposed both from methodological indicator construction and its interpretation.

To sum up and check out three main hypotheses and their additional ones regarding strategic awareness it has to be announced that:

***H1.** The concept of "sustainable local development" is mostly understood by Metropolis GZM inhabitants as development that harmoniously takes into account social, economic and environmental aspects – was **proved**,*

***H2.** Good health and well-being is the most important for Metropolis GZM inhabitants from the point of view of the quality of life in the municipality among all seventeen United Nations Sustainable Development Goals – was **proved**,*

***H3.** At least 2/3 of Metropolis GZM inhabitants do not have any knowledge and interest about their municipal strategy or have basic knowledge only that the city has a strategy – was **proved**,*

***H4.** Metropolis GZM inhabitants with a high life satisfaction have more knowledge and interest about their municipal strategy and Metropolis GZM*

*inhabitants with a low life satisfaction have less knowledge and interest about their municipal strategy – was **proved**,*

H5. *The youngest Metropolis GZM inhabitants (age 18-24) in comparison to the oldest one (age 55+) have less knowledge and interest about their municipal strategy – was **proved**,*

H6. *Metropolis GZM inhabitants in big cities have the lowest strategic awareness gap – was **denied**.*

H1-H5 were proved, H6 was denied, because the lowest strategic gap according to SAI is in small not big cities with the country rights.

The main recommendations for better sustainable local management are:

- a) take into consideration in local documents and local practices understanding sustainable local development that harmoniously takes into account social, economic and environmental aspects,
- b) update the municipal development strategy and taking into account sustainable development in line with the implemented agenda "The 2030 Agenda For Sustainable Development",
- c) greater correlation of development policies in municipalities with the expectations of residents in terms of convergence with the priority goals of the UN SDGs,
- d) be aware of strategic awareness indicator and using it to measure the strategic awareness gap,
- e) develop social capital and cross-sectoral cooperation as a multidimensional support for activities aimed at strengthening and sometimes rebuilding social capital at the local, communal, inter-municipal and metropolitan levels and development of cross-sectoral cooperation with the use of tools such as urban labs, multifunctional dialogue platforms, formal and informal meetings leading to the creation of partnership projects to implement strategy (Budziński M., Kinelski G., Raczek M., Wrana K, 2022, p 189.),
- f) promote knowledge among all the Metropolis GZM municipalities, and spread it outside the metropolis to other cities and municipalities and governmental institutions in Poland and abroad,
- g) treat the results as the basis for further in-depth research, taking into account, among other, comparative possibilities with other domestic and foreign metropolitan areas and the evolution of the studied phenomena over time.

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