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FROM THE EDITORIAL COMMITTEE

We are giving you the next 32nd 4 (2025) issue of the scientific journal of the Faculty of Management at the Rzeszów University of Technology entitled „Humanities and Social Sciences”.

The aim of the Publisher is to raise the merits and the international position of the quarterly published by the Faculty of Management, that is why we are still developing the cooperation with foreign team of reviewers, as well as an international Scientific Board. The Editors have also attempted to apply for international databases; currently the HSS journal is indexed in **Index Copernicus Journal Master List, The Central European Journal of Social Sciences and Humanities (CEJSH) ERIH PLUS, DOAJ and EBSCO**.

The journal „Humanities and Social Sciences” participated in the „Support for scientific journals” program in 2019-2020, and in the „Development of scientific journals” program in 2023-2024, organized by the Ministry of Science and Higher Education.

The articles published in this publication are devoted to the broader issues of the humanities and social sciences. They are the result both of theoretical and empirical research. The subjects covered vary considerably and reflect the interdisciplinary nature of the journal. We do hope that the papers published will meet your kind interest and will be an inspiration to further research and fruitful discussions.

On behalf of the Editorial Board of „Humanities and Social Sciences” we would like to thank the Authors for sending the outcomes of their research. We would like to express particular gratitude to the Reviewers for their valuable feedback that greatly contributed to increasing values of the scientific publications.

With compliments
Editorial Committee

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Dariusz CZEKAJ¹

SOCIAL, PROFESSIONAL, AND MATERIAL CONSEQUENCES OF SOLDIERS' PARTICIPATION IN OPERATIONS ON THE BORDER

For over four years, soldiers have been sent to the Polish-Belarusian border to support the border guards in counteracting illegal migration. Participation in these activities affects their relationships with their families and their opinions about military service. My study aims to show how participation in border operations affects soldiers' functioning across the social roles they perform daily and the motivations that drive them. Therefore, in conducting my research, I sought answers to the question: What are the social, professional, and material consequences of soldiers' participation in supporting the Border Guard in countering illegal migration, and what professional factors determine these attitudes? In search of answers to this problem, I conducted a diagnostic survey using a questionnaire among 906 soldiers participating in the "Bezpieczne Podlasie" operation. The results indicate that border service significantly affects soldiers' personal and professional lives. Prolonged separation from family leads to a deterioration in partner relationships, and repeated and intensive deployments weaken the identification of the tasks performed with the content of the military oath. The results emphasize the need to introduce systemic solutions in rotation, family support, and clear communication of the operation's objectives.

Keywords: army, migration, hybrid warfare, Border Guard.

1. INTRODUCTION

Military sociology analyzes the functioning of the armed forces as a specific social institution whose tasks, norms, and structures have a particular impact on soldiers and their relationships with their social environment. Military service, particularly when conducted under conditions of tension on the state border, imposes both institutional burdens and changes in the family, economic, and social lives of soldiers. The basis for the analysis of these phenomena is the theory of social roles and Charles Moskos's "institution-profession" model.

Social role theory, derived from the works of Ralph Linton (Linton, 1936), Robert Merton (Merton, 1968), and Erving Goffman (Goffman, 1959), assumes that individuals

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function by playing several social roles, each of which is burdened with a set of norms, expectations, and requirements. The role of a soldier is particularly firmly institutionalized, its content being defined by regulations, hierarchical structure, and the military oath, which constitutes the normative core of this role (Kucia, 1997). According to role theory, consistency between the expected and actual roles strengthens a soldier's sense of purpose and professional identity. At the same time, inconsistency can lead to role dissonance and reduced job satisfaction (Szwed, 2020).

Soldiers perform many roles simultaneously, including professional, family, and local roles. When the requirements of two roles are mutually contradictory, role conflict occurs (Kahn, 1964). Long-term service at the border, involving separation and limited contact with family, is a classic example of such a conflict. Studies of military families indicate that separation due to service can lead to emotional strain, marital problems, increased stress in partners, and a feeling of lack of support (Segal, 1986). Goffman noted that those around them constantly evaluate individuals, and that fulfilling a role entails expectations of prestige and acceptance (Goffman, 1967). In the case of soldiers, it is essential to consider whether their activities, especially in the context of border operations, which are often the subject of public debate, are met with approval, admiration, or indifference.

The "institution-profession" model developed by Charles Moskos describes the evolution of the armed forces from organizations based on values and ethos (the institutional model) to organizations dominated by the pragmatics of professional work (the professional model) (Moskos, 1977). In the institutional model, service is a mission, and moral motivations play a significant role. In the professional model, remuneration, working conditions, development opportunities, and job stability become key. Moskos points out that modern armies operate between these two extremes, with soldiers being motivated by both institutional and professional factors (Moskos, Williams, Segal, 2000).

Increased border duty entails additional remuneration, but also greater workload and stress. Soldiers, therefore, assess their service not only in terms of duty, but also in terms of economic profitability, which is consistent with the logic of the professional model. In turn, growing institutional burdens (e.g., long-term separation, unpredictability of the following border assignment) can change perceptions of the meaning of service and prompt consideration of leaving the military. Researchers emphasize that decisions to resign from service result from a balance between institutional costs and professional benefits (Burk, 2009).

The contemporary prestige of soldiers stems not only from the traditional ethos of defending the homeland but also from the professionalization of service and the quality of the tasks performed (Segal, 1993). This means that the social assessment of activities at the border can have both a moral dimension (whether soldiers defend national values) and a professional one (whether they are performing responsible and challenging work).

The social role theory and Moskos's "institution-profession" model form a coherent theoretical framework for interpreting soldiers' responses to questions about activities at the state border. Role theory allows analysis of the normative and social dimensions of service, family relationships, and the prestige of the soldier's role. At the same time, Moskos' model explains economic motivations, assessments of service conditions, and decisions about continued military service. The combined application of both approaches enables a more complete understanding of the complex experiences and attitudes of soldiers involved in border activities.

2. RESEARCH METHODOLOGY

The study used a diagnostic survey and a questionnaire. The research tool was a survey questionnaire. The study's sample was selected using quota sampling. For the study, the author assumed that 6,000 soldiers were directly involved in supporting the Border Guard in operations on the Polish-Belarusian border in the Podlaskie and Lubelskie provinces (Zajac, 2024).

The study involved soldiers from units carrying out activities as part of the first phase of Operation "Bezpieczne Podlasie", mainly from the 18th Mechanized Division (18 DZ) and the Territorial Defense Forces (WOT).

To determine the sample size, it was assumed that the confidence level coefficient $Z\alpha$ is 1.96 for α equal of 0.5. The margin of error was set at 3% ($d=0.05$) to obtain the most reliable result while keeping the sample size to a minimum. According to the calculations, the sample size should be 906 soldiers. Next, I determined the distribution of quotas among individual groups.

Table 1. Method of calculating the study population and distribution of the number of subjects among soldiers "Bezpieczne Podlasie" I

TF/units	HQ/ suport units	Task Force North	Task Force Center	Task Force South
Sample size	109	290	398	109
Officers 15%	16	43	60	16
Noncommissioned officers 30%	33	87	119	33
Privates 55%	60	160	219	60

Source: Own work.

I conducted the study between December 2 and 15, 2024, successively in individual task groups.

3. SOLDIER – SERVICE AND PROFESSION

The recitation of the military oath symbolically transforms a recruit into a soldier, imposing on him the responsibility to defend his homeland in accordance with the Constitution of the Republic of Poland, which states: "The Armed Forces of the Republic of Poland shall serve to protect the independence of the state and the integrity of its territory, and to ensure the security and inviolability of its borders" (Constitution, 1997). In the popular imagination, a soldier is someone who defends the country against an aggressor in times of war. However, contemporary conflicts also show him as a participant in stabilization missions, protecting civilians from threats from rebel groups or ethnic conflicts. Soldiers are also often involved in cleanup efforts after natural disasters. This image has become established both in society and among soldiers themselves.

The emergence of new forms of threats, such as hybrid activities, has meant that the military can be used for tasks completely different from those for which it was previously prepared. One example is the support provided to the Border Guard in countering illegal migration, which raises questions about the legitimacy of such involvement. Has the moment really come when the military should be used? Or perhaps this decision is based

on reasons other than a real security threat, and is intended to relieve the burden on border services?

Soldiers are primarily trained to conduct combat operations, use weapons, and destroy enemy equipment, which, in a conflict situation, may respond with fire. Meanwhile, at the border, their role is limited to stopping people from crossing in search of a better life, often for economic reasons. This is a new challenge that does not fit the traditional perception of military service and may raise doubts about its legitimacy. This raises the question of whether, in the opinion of soldiers, the actions they perform are in line with the words of the military oath in which soldiers pledge to "...defend its independence and borders" (Act, 2022). The distribution of respondents' answers to this question is shown in Chart 1.

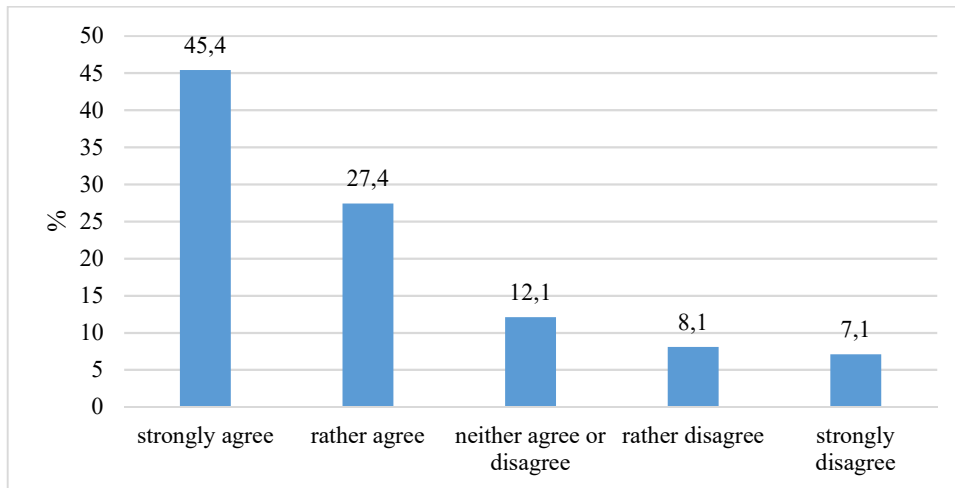


Chart 1. In your opinion, do the current actions fulfill the military oath to "...defend its independence and borders"?

Source: Own research, 2024, soldiers (N=906).

The vast majority of soldiers view the activities carried out at the border in support of the Border Guard as fulfilling a duty arising directly from their military oath. This opinion was expressed by 72.8% of respondents, who chose the answers "strongly agree" or "rather agree." The opposite opinion was held by 15.2% of respondents, while 12.1% did not have a clear opinion and chose the answer "neither agree nor disagree". These results indicate a strong sense of duty and professional identity among soldiers performing tasks at the state border.

Although the high percentage of positive responses may seem optimistic, it is worth noting that more than a quarter of respondents either do not share this view or find it difficult to clearly determine whether their actions are based on their military oath. This is an important aspect that warrants closer analysis, especially by soldiers' superiors.

Contemporary conflicts are characterized by the growing unpredictability of the methods and means used, often balancing on the borderline between peace and war, and between law and its violation. Such a dynamic environment can create uncertainty about whether specific tasks should be carried out by the military or by other services. It is

therefore crucial that soldiers have no doubts about the legitimacy of their actions and are unequivocally convinced of their rightness.

To determine whether there is a relationship between the dependent variable and the independent variables, they were compared. The analysis of the data indicates that there is no relationship between the independent variables, such as age, education, gender, military branch, marital status, and the respondents' assessments in this regard. On the other hand, there is a correlation between the variables of place of military service, unit, length of service, previous participation in border operations, and the respondents' answers.

When analyzing the distribution of responses by "place of service," there is a weak correlation between the variables. Respondents from 12 MDiv, 11 ACDiv and WOT most often declared that their service at the border was in fulfillment of their military oath, while respondents from 18 MDiv expressed this opinion least frequently. Among the respondents from this division, the most significant percentage of soldiers indicated negative responses, "rather disagree" and "definitely disagree".

In individual groups, the most respondents reported that their actions were in accordance with their military oath in Task Force South, while the fewest did so in Task Force Center. Soldiers in the Task Force Center also indicated the highest percentage of negative assessments, with one in five respondents choosing the answers "rather disagree" and "definitely disagree".

Military service experience was not without significance; there is a weak correlation between length of service and responses. The highest percentage of soldiers declaring that their actions were consistent with the words of the oath was recorded in the oldest groups: those aged 21 to 30 and those with 31 years of service or more. Over 90% of respondents in these groups believe that actions carried out at the border are consistent with the military oath. The lowest results were obtained in the group with 6 to 10 years of service, followed by the group with 11 to 20 years of service. The youngest respondents, in terms of length of service, were more likely to associate their activities with the military oath than their older colleagues. Still, they were not as decisive as the two oldest groups. The relationship between the variables is weak.

There is a correlation between responses to the question about the military oath and prior participation in border operations. Still, the strength of this correlation, as measured by Pearson's contingency coefficient C , is weak. The three groups of respondents with the least experience in border operations most often indicated a connection between their service and the words of the oath. Among them, the highest percentage of those who declared that the tasks they were assigned to were a fulfillment of the words of the military oath were in the group with 1 to 3 months of experience in border service. The percentage of positive responses decreased with length of service at the border, and I recorded the lowest rate among soldiers who had served in this environment for at least 6 months.

For many soldiers, the key reasons for joining the service are passion or a search for adventure, and values such as patriotism, a desire to help others, and a sense of duty are the determinants of their commitment. Nevertheless, the primary motivation remains economic factors, security, and predictability in the workplace associated with employment in the public sector, and the possibility of retiring earlier than other employees (Knopp, 2021; Liberadzki, 2007). Service requires sacrifice from both the soldier and his family, often taking him away from home for weeks or months. Providing for the family then takes on a different meaning.

The financial situation significantly affects motivation to serve, and economic conditions can shape attitudes towards this service and the willingness to continue it.

Soldiers assigned to the borders receive a special allowance for each day of service as part of the Border Guard support (Ministry of Defense Regulation, 2024). I asked the soldiers how participating in border operations affects their financial situation. The distribution of respondents' answers to this question is shown in Chart 2.

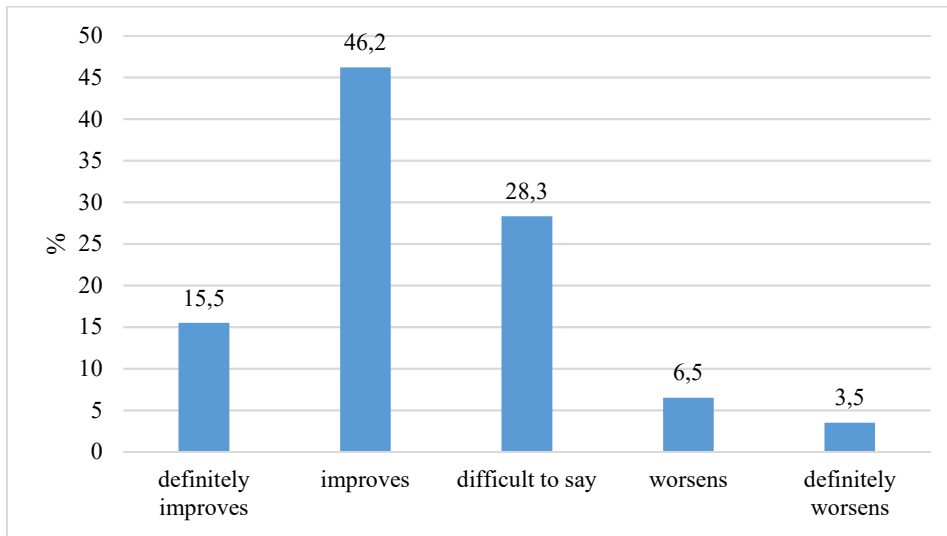


Chart 2. How does participating in border activities affect your financial situation?

Source: Own research, 2024, soldiers (N=906).

More than half of the respondents (61.7%) stated that their financial situation improved as a result of participation in border operations in support of the Border Guard. 10% of soldiers expressed a different opinion, indicating that their economic conditions had deteriorated due to deployment outside the garrison. A significant percentage of respondents (28.3%) were unable to clearly assess the impact of their stay at the border on their financial situation, choosing the answer “difficult to say”.

To determine whether there is a relationship between the dependent variable and the independent variables, they were compared. The analysis of the data indicates that there is no correlation between the independent variables, such as age, education, gender, place of military service, grouping, personnel corps, previous participation in border operations, and the respondents' assessments in this regard. On the other hand, there is a correlation between the variables of length of service, marital status, and the respondents' answers.

Respondents aged 21 to 39 and those with the least seniority (up to 5 years of service) rated their financial situation during their stay at the border most positively. In their opinion, participation in border operations improved their financial situation. The oldest soldiers with at least 31 years of service were the least likely to indicate an improvement in their economic situation; in this group, the highest percentage declared that their financial situation had worsened. The strength of the relationship between the variables, as measured by Pearson's contingency coefficient C, indicates a weak association.

Another factor that correlates with the responses is marital status, but the correlation is weak. Single men and women, and those in civil partnerships, most often declared that their financial situation had improved after being sent to serve at the border. Divorced and

widowed people were the least likely to report an improvement in their economic status. In the latter group, the percentage of soldiers who believed that their financial situation had worsened was the highest among all respondents.

Deploying to the border to support the Border Guard is not much different from a foreign mission. In both cases, soldiers spend extended periods away from home, on bases where life is strictly regulated. Every action stems from the purpose and tasks assigned to a given unit and the soldier serving in it, apart from that, "entry and exit outside the designated area is strictly regulated and controlled... the course of life is precisely determined and imposed by a daily routine that regulates wake-up time, meal times, activities, and rest periods" (Czekaj, 2021). This exhausts the description of the total institution described by Erving Goffman as "a place of residence and work where a large number of people, cut off from the wider society, lead their common, closed, and formally administered existence at the appropriate time" (Olechnicki, Załęcki, 1997). Soldiers' contact with their families is limited to telephone calls or Internet connections, and even then, in some situations, soldiers are not allowed to use these devices, e.g., while on duty in the border zone.

Service at the border can last from several weeks to six months. Service members can return to the garrison for a few weeks before being sent back to serve at the border. The whole cycle lasts six months, during which time one of the Polish Army divisions is responsible for the change. After six months, a rotation occurs, and another division takes over. From the soldier's perspective, over six months, he will spend about 3-4 months serving at the border.

Long periods away from home with limited contact with family must affect family relationships, mainly due to separation. Prolonged periods of separation from family disrupt the stability of life, including the satisfaction of biological and social needs, and undermine the stability of marital and parental bonds (Obuchowska, 2008). Contact with a spouse or partner is sporadic. Daily concerns about a partner's health or life cause stress for both the soldier and their family. Spouses deprived of their partners have to cope with the difficulties of everyday life on their own, becoming responsible for all household matters, unable to share them. The inability to share everyday worries and joys affects every family member (Krzemińska, 2016). Therefore, I asked the soldiers whether the necessity of long-term separation due to deployment to the border affects their family/partner relationships. The distribution of respondents' answers to this question is presented in Chart 3.

Among soldiers participating in border operations, only 11.2% believed that their stay had a positive impact on their family or partner relationships. The vast majority (66.3%) assessed that being away from their families hurt their relationships with spouses, partners, children, and other family members, with nearly half of this group indicating a "definitely negatively" response. On the other hand, 22.4% of soldiers did not express a clear opinion on this subject.

To determine whether a correlation exists between the dependent variable and the independent variables, they were compared. Data analysis indicates that there is no correlation between the independent variables, i.e., length of service, personnel corps, and respondents' assessments in this regard. On the other hand, there is a correlation between the variables of age, education, gender, place of military service, grouping, previous participation in border operations, marital status, and the respondents' answers.

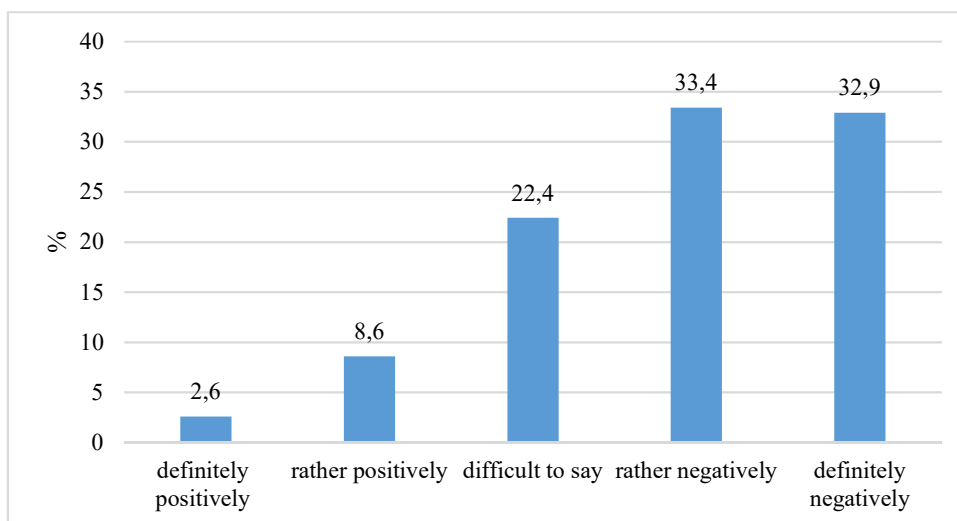


Chart 3. How does the necessity of long-term separation due to traveling abroad affect your family/partner relationships?

Source: Own research, 2024, soldiers (N=906).

People aged 25 to 34 most often reported that staying at the border negatively affected family relationships, followed by respondents aged 35 to 44, who also strongly emphasized this problem. The lowest percentage of negative assessments was obtained in the oldest group, aged 55 and above, while the youngest respondents, aged 18 to 24, were less likely to indicate problems in this area. The correlation between the variables was weak.

When analyzing the distribution of responses by the independent variable “education”, a weak correlation is observed. Soldiers with higher education most often point to family problems caused by long periods away from home due to service on the border. In the following groups, both primary and secondary education, the percentage of respondents indicating problems is also high, exceeding 50%. Respondents with lower secondary education reported family problems least often.

An analysis of the respondents' answers showed that men were more likely than women to report problems in family relationships resulting from their absence from home due to service at the border. In contrast, among women, the percentage indicating a positive impact of separation on relationships was twice that of men. Despite these differences, the relationship between gender and the assessment of separation's effects on family relationships remains weak.

There is a correlation between the answers to the question of how long-term separation due to deployment abroad affects family/partner relationships and the independent variable “place of service” of the respondents. The strength of the correlation, as measured by Pearson's contingency coefficient C, is average. Family problems and the negative impact of separation were most often reported by respondents from the 18th Mechanized Division, and least often by those from the Territorial Defense Forces. The opposite relationship is evident in analyses of positive assessments of separation: respondents from the Territorial Defense Forces most often indicate positive effects, and respondents from the 18th Mechanized Division least frequently.

A similar distribution is observed when analyzing responses by “task forcers”. Respondents from the Task Force South (for which the Territorial Defense Force is responsible) were least likely to indicate a negative impact of their stay at the border on family relationships. In contrast, respondents from the Task Force North and Center (both under the responsibility of the 18th MDiv) were most likely to report a negative impact of long-term separation on family relationships due to their deployment to the border. The strength of the relationship between the variables is average.

An analysis of the distribution of responses depending on the length of soldiers' stay at the border indicates a correlation. As time away from home increases, the percentage of positive assessments decreases, while the number of respondents reporting difficulties in family relationships increases. Despite this trend, the correlation between the variables remains weak.

Whether serving in the military or working in civilian life, people expect fair pay for the effort and time they devote to their profession. The economic factor is one of the main drivers, but not the only one. For many people, recognition from their community for their work is significant. According to Sebastian Michalik, “recognition from others is a necessary condition for the formation of a coherent and satisfying subjectivity or, in other words, for obtaining the status of a full-fledged member of society” (Michalik, 2010). Soldiers, who sacrifice their time and sometimes their health or lives in a special way, expect recognition from society and their loved ones. It is they who suffer significantly from the separation caused by the state's border protection. Importantly, soldiers are assigned to this service, so it is the state that orders them to leave their homes and support the Border Guard, regardless of their personal plans.

In peacetime, soldiers can demonstrate their courage by facing the enemy and defending their fellow citizens. As Joanna Wawrzyniak writes about soldiers in peacetime, “The ethos of a soldier clearly distinguishes him from officers of other formations, although the position of a soldier in peacetime undergoes a ‘natural’ devaluation. Although it has the characteristics of a total institution, it enjoys great recognition and respect from a society attached to tradition” (Wawrzyniak, 2008). The support of the Border Guard and activities to prevent illegal migration differ from the war we know from history or films. Still, the costs and efforts that soldiers incur by participating in them are high, and despite the lack of a permanent threat to life, they deserve recognition. Therefore, I asked the soldiers whether their participation in protecting the state border brought them recognition from their family, friends, and neighbors. The distribution of respondents' answers to this question is presented in Chart 4.

None of the categories of responses to the above question received a majority of votes, which indicates diverse opinions on the perceived recognition of military service at the border. As many as 45.8% of respondents declared that they perceive recognition of their service among their family and the closest circle of friends. In contrast, 19.4% of soldiers reported not encountering such recognition. More than one-third of respondents, 34.8%, indicated the answer “difficult to say”, which suggests a lack of clear opinion on this issue or doubts about how those around them perceive their role.

To determine whether there is a correlation between the dependent variable and the independent variables, they were compared. Data analysis indicates that there is no correlation between the independent variables, such as education, gender, military unit, and the respondents' assessments in this matter. On the other hand, there is a correlation between the variables of age, place of military service, group, length of service, previous participation in border operations, marital status, and the respondents' answers.

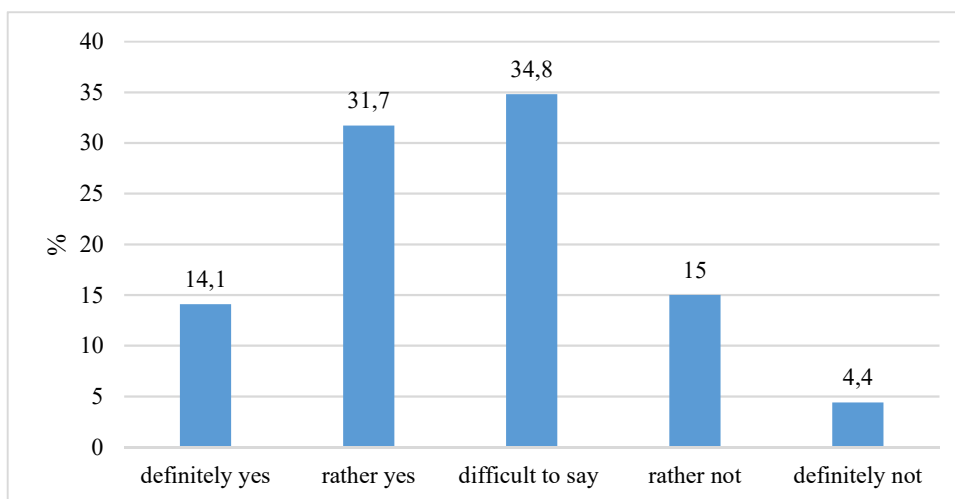


Chart 4. Did participating in the protection of the state border bring you recognition in the eyes of your family, friends, and neighbors?

Source: Own research, 2024, soldiers (N=906).

In individual age groups, recognition among family, neighbors, and friends was most often declared by respondents aged 45 to 54 and the youngest in the 18 to 24 age group. Soldiers aged 35 to 44 were the least likely to report recognition among those around them. This group had the most potential to report a lack of recognition. The relationship between the variables is weak.

Among the units and formations responsible for deploying soldiers to the border, the highest percentage of respondents indicating recognition was recorded in the 18th Mechanized Division and the Territorial Defense Forces. On the other hand, this category was least often chosen by respondents from other units supporting the main forces operating at the border. Statistical analysis revealed a weak relationship between the variables.

An analysis of responses from soldiers across different task forces showed that respondents from Task Force South most often reported receiving recognition from their loved ones for their service and dedication during operations at the border. The percentage of positive responses in this group was, on average, 1.5 times higher than among soldiers from other task forces. The relationship between the variables is weak.

There is a correlation between the answers to the question of whether participation in the protection of the state border brought you recognition in the eyes of your family, friends, and neighbors, and the length of service of the respondents. The strength of the correlation, as measured by Pearson's contingency coefficient C, is weak. Respondents with 21 to 30 years of service most often reported receiving recognition, while those with 31 years or more of service and younger respondents with 6 to 10 years of service were least likely to report receiving recognition from their loved ones.

As the length of service at the border increased, soldiers reported receiving recognition from family and friends less frequently. The exception was the group that had spent at least 6 months at the border; its responses were close to the average of all respondents. The

relationship between length of service and the perception of recognition from loved ones is weak.

Bachelors and spinsters enjoy the most significant recognition among family and friends, while widowers are the least likely to be recognized. The relationship between the variables is weak.

In the past, resigning from military service and transferring to the reserve meant obtaining pension rights and ending one's military career. With the suspension of conscription and an increase in the number of professional soldiers, mainly in the enlisted corps, staff turnover has increased. Soldiers begin their service, and if it does not meet their expectations or the requirements are too high, they are ready to change jobs and enter civilian life. The percentage of such cases depends mainly on the local labor market and the availability of other employment.

The main reasons for leaving military service, both before and after reaching the minimum retirement age, remain similar, although soldiers' economic situation differs in the two cases. The most frequently cited reasons for transferring to the reserve and possibly taking up employment in the civilian market include: financial factors, personal considerations, deteriorating health, lack of promotion or prospects for promotion, family influence, and frustration resulting from ineffective management within the military structures (Knecht, Pindelski, 2019).

Long-term service at the border involves being away from home, which, on the one hand, provides an opportunity to improve the financial situation of soldiers and their families, but, on the other hand, leads to separation and numerous inconveniences associated with living on military bases.

Deployment to the border is not the only factor contributing to long-term absence from home. After completing such a mission, soldiers return to their regular training cycle, which includes intensive field exercises and duty. In addition, military units regularly deploy their soldiers to foreign missions. As a result, a situation may arise in which a soldier serves at the border for a short period, then returns to the garrison, and is then redeployed, e.g., on a mission outside the country. Such conditions can have a significant impact on the family life and mental and physical functioning of soldiers. I asked the soldiers whether they had considered resigning from military service due to their deployment to the border area and their support for the Border Guard. The distribution of respondents' answers to this question is shown in Chart 5.

The decision to send soldiers to the Polish-Belarusian border to support the Border Guard prompted 27.5% of them to consider resigning from military service. Among the respondents, 17.8% were unable to give a clear answer, choosing the option "difficult to say". On the other hand, 54.8% of respondents declared that they had not experienced such dilemmas and had not considered resigning from service.

To determine whether a relationship exists between the dependent variable and the independent variables, they were compared. The analysis of the data indicates that there is no relationship between the independent variables, such as education, gender, length of service, personnel corps, marital status, and the respondents' assessments in this matter. On the other hand, there is a correlation between the variables of age, place of military service, grouping, previous participation in border operations, and the respondents' answers.

Within age groups, soldiers aged 55 and over and those aged 25–34 were most likely to consider exemption from military service. The youngest respondents (aged 18–24) and soldiers aged 45–54 were the least likely to consider this option, with the vast majority declaring that being sent to the border did not prompt them to consider resigning from

service. An analysis of the relationship between age and the propensity to leave the military indicates a weak correlation, suggesting that other factors unrelated to soldiers' age may also influence the decision to resign.

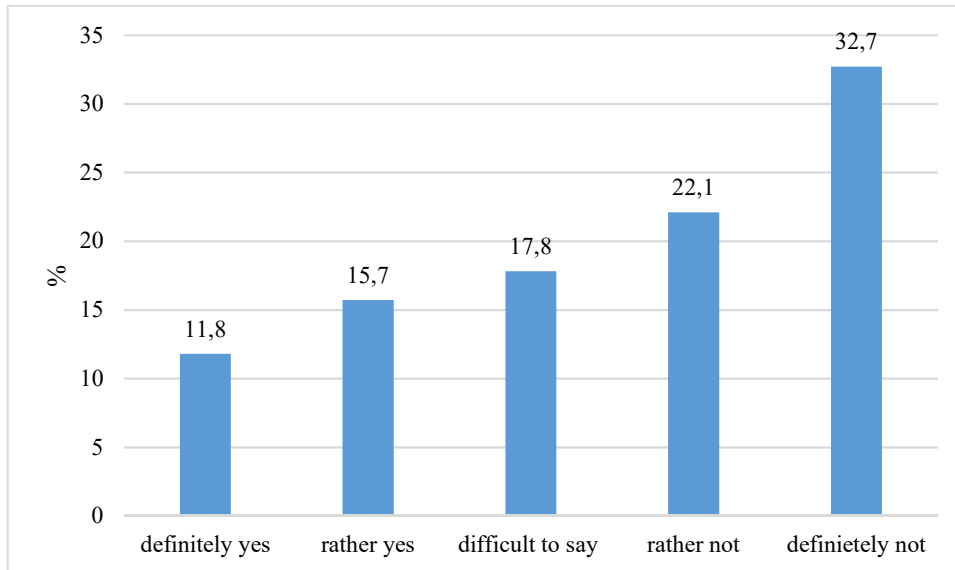


Chart 5. Have you considered resigning from military service because of being sent to the border to support the Border Guard?

Source: Own research, 2024, soldiers (N=906).

An analysis of respondents' answers by place of service indicates a relationship between the average strength variables. Soldiers from the 18th Mechanized Division most often declared that they had considered resigning from service in connection with being sent to the border. Respondents from the 12th Mechanized Division and the Territorial Defense Forces were less likely to consider this option. In turn, soldiers from the Territorial Defense Forces and the 11th Armored Cavalry Division most often indicated that they had no such doubts. These results suggest that perceptions of the decision to deploy to the border may vary across military units, possibly due to deployment frequency, the nature of the service performed, and operational conditions.

In individual groups, respondents from Task Force Central most often stated that being sent to serve at the border alongside the Border Guard prompted them to consider resigning from the military. Respondents from Task Force South were among the least likely to express such doubts. The strength of the relationship between the variables is average.

Experiences related to previous participation in supporting the Border Guard, along with respondents' answers, indicate a weak correlation. The longer the period of service at the border, the higher the percentage of respondents who considered resigning. The exception was respondents without such experience, whose assessments were at the average level for the entire research group.

4. CONCLUSION

The research conducted provided answers to the research question. The results clearly confirm that serving at the border is a multidimensional experience that strongly affects soldiers' personal, professional, and family lives, and that the intensity of these effects depends on the specific nature and conditions of the service.

In social terms, the research showed that long-term or repeated absences from home hurt family relationships for most respondents. Soldiers, especially those aged 25–44 and those who spent the most time at the border, reported the most significant difficulties in maintaining family and partner relationships. This correlation was clear, though moderate in some groups. This indicates that border service, primarily when performed in quasi-mission conditions, generates social costs that affect both soldiers and their families. It is worth noting that the adverse social effects were more pronounced in units that perform border duties more frequently and in groups with a heavier service load.

In the professional sphere, there were differing opinions as to whether actions at the border were in line with the military oath. Although most soldiers declared that these actions were consistent with the oath, the results indicate that the more prolonged and intense the experience at the border, the more often doubts arise about the meaning and legitimacy of such tasks. It follows that repeated participation in border operations may lead to a decline in institutional motivation and a weakening of the belief that these activities are consistent with fundamental military values. At the same time, about a quarter of respondents considered resigning from service due to being assigned to the border, which indicates the real impact of these activities on career decisions and staff retention.

In material terms, the study showed that a significant proportion of soldiers perceive an improvement in their financial situation as a result of allowances for border service. However, this effect is most noticeable in younger groups and those with short service records. Among soldiers with the longest service and those who have served at the border multiple times, there was a stronger sense that the financial benefits do not compensate for the social and professional costs. This indicates that financial motivation is short-lived and weakens as border service experience is prolonged or repeated.

The participation of soldiers in activities supporting the Border Guard has clear social, professional, and material consequences, with the most significant impact on their intensity being exerted by service-related factors: place of service, grouping, length and frequency of deployments, and previous experience. There is therefore a need to develop systemic solutions that include family support, a more balanced rotation system, clear communication of operational objectives, and adequate compensation. Such measures could reduce the number of soldiers considering leaving the service, lower social costs, and strengthen the motivation of soldiers performing border duties.

The author has read and agreed to the published version of the manuscript.

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CONSUMPTION OF AFFORDABLE LUXURY AMONG YOUNG WOMEN: THEORETICAL CONSIDERATIONS AND EMPIRICAL RESEARCH

In recent decades a new category of luxury products have emerged. It is referred to as affordable luxury or luxury for the masses. The article contains the analysis of the definition of luxury, luxury market as well as sociological and psychological aspects of luxury consumption. With regard to empirical research the purpose of the study was to explore how young women perceive luxury and why they engage in luxury consumption in the context of their experiences, perspectives and feelings connected with luxury purchases? A cohort of women aged between 20 and 30 years was studied as young women are the future market drivers with reference to luxury goods consumption. Research results indicate that traditional explanations of luxury brands consumption based on sociological notions of prestige, social stratification and impressing peers have a limited explanatory value with regard to predicting the consumer behavior of young females.

Keywords: luxury consumption, young women, consumer behavior, sociology and psychology of consumption, luxury marketing.

1. INTRODUCTION

At the turn of the 21st century producers of consumption goods realized that there was a market niche overlooked so far. As a result, mass production of better than conventional middle-market goods have emerged. The luxury market expands at a very fast pace. It was

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growing at roughly 10–15 percent annually since the early 1990s which was faster than any other consumer goods market. The global luxury goods market valued at USD 463.2 billion in 2024, is expected to grow by 4.3 percent to reach market size worth USD 713.4 billion by 2034 (Luxury Goods Market, 2024). In 2022, Bernard Arnault, the owner of the biggest luxury goods conglomerate L.V.M.H., temporarily became the richest man in the world. His net worth surpassed the USD 200 billion mark. He controls 75 luxury brands (Hartmans et al.). The popularity of luxury goods among consumers is related to growing affluence of the middle class and the fact that the human need for social differentiation has not disappeared. Sociocultural and psychological factors are in play with regard to the luxury market growth. As a result, a new category of luxury available to the masses has emerged in recent decades. Both high-end brands and the producers of goods for the masses intended to capitalize on this new trend offering a range of products for the middle class which were branded as luxurious. Among the consumers young women stand out as they will determine the future of the market and they already engage in spending on luxuries in spite of limited financial means at their disposal. For this reason, the study concentrates on the cohort of young adult female consumers aged 20–30 years. The luxury literature indicates that the effect of gender in cross-national settings should be taken into consideration as significant variations in consumption patterns occur on the basis of gender (Boisvert, Ashill, 2018). Moreover, young adult women have been brought up in a new cultural setting influenced by the new media environment which raises the question of the relevance of consumption literature in case of the analyzed cohort. The new cultural trends value personal experiences, feelings and emotions. The main purpose of the study is to explore how young women perceive luxury and why they engage in luxury consumption in the context of their experiences, perspectives and feelings related to luxury consumption? The research has been conducted on the basis of interviews with young women between the ages of 20 to 30 years old who engage in luxury consumption in spite of limited financial means at their disposal. The contribution of the study to the field of research consists in exploring changing consumer behavior and verifying whether the standard reasoning connected with traditional patterns of consumption is still relevant.

2. LITERATURE REVIEW

2.1. The notion of luxury and luxury goods market

Initially luxury goods were accessible only to the elite. In recent decades however as the disposable income of middle class customers has increased, and corporations intended to broaden their customer base by offering cheaper luxury goods, luxury has become attainable for the masses. On the other hand, mass production goods can become luxury in the eyes of customers as a result of a successful marketing campaign. This new luxury is called *masstige*, *premium*, *mass consumption luxury* or *luxury for the masses* (Granot et al., 2013).

The well-off classes constitute less than 50 percent of the luxury goods market. As a result, it was necessary to broaden the customer base to increase the turnover of luxury goods producers. The middle class and aspirational consumers were successfully targeted (Bellaiche et al., 2010). Even customers without substantial income can bring benefits as they buy cheap fragrances and beauty products which constitute one third of the market. Luxury brands producers have been tempted to tap into lower end segments with the aim of expanding market share. For this reason, the use of brand extensions has become central to the business model of most luxury brands. As a result, the new brands called sub-brands

appeared, e.g. Versus by Versace (Albrecht et al., 2013). Line extensions are to leverage the value of the core brand. A downward luxury line extension can be counterproductive as customers may view it negatively. Such dangers are less important in case of horizontal extensions. The perception of line extensions is crucial in case of young consumers given that luxury brands will be redefined by them (Boisvert, Ashill, 2018).

Luxury has traditionally been associated with exclusiveness, highest quality, heritage, craftsmanship, great in-store experiences. In other words, luxury is composed of three elements: Physical properties of a product (high quality), its symbolic value (e.g. prestige) and emotional value (Nia, Lynne Zaichkowsky, 2000). Mass luxury may therefore be regarded at least to some extent as anathema to the traditional notion of luxury. In this context Dryl (2020) writes:

Drawing a clear line between a mass/common product and a luxury product is a big challenge. This is because luxury and mass products are the end points of the product continuum. Indicating the point at which a mass good becomes a luxury is not unambiguous and acceptable.

Numerous researchers agree that luxury products should be divided into at least three tiers (Silverstein, Fiske, 2003; D'Arpizio, 2014; Vickers, Renard, 2003; Chevalier, Mazzalovo 2008; Granot et al., 2013).

- First tier (absolute luxury) refers to inaccessible luxury for the elite. It refers to high-end brands often sold only to the customers with established purchase history, (e.g. Patek Philippe watches with prices starting at around USD 40,000).
- Second tier (aspirational luxury) encompasses luxury for the upper middle class, (e.g. watches with starting price of USD 6,000-10,000 including such brands as Omega or Breitling).
- Third tier (accessible luxury) relates to mass consumption luxury accessible to the middle class. (e.g. entry-level Swiss watches priced at USD 1,000–2,000).

Chevalier and Mazzalovo (2008) write that luxury:

Promises to all social layers to escape the mass by consuming better (in the case of true luxury) or just a little better (in the case of intermediate luxury) than our peers. [...] Luxury works in opposition to a norm, to a convention shared by the greatest number – the “vulgar”, in the etymological sense of the term. In this sense, the lapidary definition of Coco Chanel perfectly expresses its essence: “Luxury is the opposite of vulgarity”.

Even though premium or luxury products may not offer a substantially better quality or utilitarian benefits compared to their cheaper counterparts, they offer psychological benefits. For this reason it is necessary to take into account the opinions of the consumers which actively shape the luxury goods market. Granot et al. (2013) come to the conclusion that the market for luxury goods is no longer controlled by the producers writing that:

The producer is no longer in control of perceptions of luxury. Consumers have gained a position from which they can dictate what luxury is and demand it. In particular, female consumers drive modern definitions and

meanings of luxury items because their earning and purchasing power enables them to influence the purchases of most consumption items.

To sum up, even if one assumes that the new luxury for the masses is not real luxury in traditional terms, still personal opinions of young women and their experiences as market drivers with respect to luxury play a major role in the development of the luxury goods market.

2.2. Symbolic nature of consumption in the light of Sociological literature

Sociology preoccupies itself with social stratification, status consumption and symbolic nature of consumption as human societies have a tendency to create hierarchies adopting different ranking systems (Johnson, Chattaraman, 2019). Hierarchical societies adopt status markers which signal the status of an individual. The term luxury is rather rarely used in sociological writings in contrast with marketing where it is very important. Status consumption which is close to sociological thinking can be associated with luxury consumption as one of the ways to signal one's status (Dubois, Ordabayeva, 2015).

The term sociocultural denotes a wide range of societal and cultural factors that influence human thoughts, feelings and behaviors. Sociocultural factors allow to determine consumption patterns. Nowadays, the emerging culture of luxury goods consumption is becoming discernible. This cultural code in Western societies conditions the need to engage in the consumption of luxuries, particularly among young people, irrespective of their material status. Symbols are part of culture and in terms of consumption they demonstrate the social status of individuals. In case of men, such symbols involve cars and wristwatches whereas handbags are particularly important for women. Every object has a utility and symbolic value. The race to have more and more luxury goods never ends as the spread of a product reduces its symbolic value (Warde, 2006).

According to Baudrillard (1970) consumer behavior can be seen as a type of symbolic exchange between people, a type of language. In the work "Consumer Society. Its Myths and Structures" he indicates that communal life is falling in favor of communion with objects. Objects are signs (simulacra) of prosperity. Wasteful consumption shows that one can afford it and therefore, he or she is at the top of the social hierarchy; it shows power, wealth and influence. Consumption is driven not by needs but by desires and it is therefore infinite and relational. An object that becomes widespread loses its symbolic power. Consumption is not egalitarian because its function is to emphasize differences between people. Man has a primary drive to create a social ladder.

Classical sociological accounts of consumption still create the framework for thinking about luxury in Europe. The common denominator of these works has remained social stratification and the will of the affluent classes to distance themselves from the less well-off sections of society (Schrage, 2012). The account of consumption provided by Veblen (1899) influences sociologists even nowadays. Veblen wrote about the leisure class and its conspicuous consumption: In this context Sotelo Moya (2012,) writes:

Thus, in a sociological sense, luxury goods are products that are perceived as lavish and opulent by others such as the general public, thus signaling the superior purchasing power and social status of their buyers and users. Luxury goods may not be any better (in absolute quality or performance, for example) than their less expensive substitutes but are purchased for the primary purpose of displaying the wealth or income of their owners.

Sociological thinking about consumption is based on the need to climb up the social ladder which is one of the drivers of human behavior. People usually intend to level up with respect to consumption. From this perspective consumption of luxury goods is conditioned by social interaction within the framework of social groups (reference groups) and aspirations to become a member of the middle class. Signaling in turn refers to demonstrating to important others that an individual has achieved a social status. Relevant others regularly serve as reference groups to luxury good consumers. Nelissen, Meijers, (2011, 10) write: "It can be tentatively concluded that conspicuous consumption increases the signalers' social capital through the formation of alliances that may yield protection, care, cooperation and even mating opportunities".

Bourdieu (1984) in the 1960s was preoccupied with culture as the determinant of class divisions as he based his account on taste with reference to consumption. His work can be relevant today with reference to inconspicuous consumption of the elites who create invisible social distinctions on the basis of top luxury brands known only to the inner circle.

American sociologists in turn were influenced by a more egalitarian American society and concentrated on the end of classical class divisions after the second world war. The point of reference for them was the middle class and standardization of lifestyles. They promoted the vision of egalitarian society offering the possibilities of social advancement for all which was to be corroborated by the slogan "the American dream". Class distinctions were put aside to promote the ideal of unrestricted opportunities offered supposedly to everyone by American society. Distinctions between the middle class and the less affluent people still persisted but they were more subtle (Rojek, 2013).

2.3. Psychological aspects of consumption in the light of literature

Substantial body of evidence point to the conclusion that consumer behavior cannot be explained only by resorting to traditional sociological conceptions. One cannot underestimate individual and psychological aspects of luxury goods consumption even though in some cases psychological needs are connected with social needs, such as the need for affiliation. (Wiedmann et al., 2009).

One of the main problems of psychological research related to consumption consist in determining whether individual or social needs play a greater motivational role for consumers. Research concentrating on the role of society in acquiring the attitudes, values, motivations, and behaviors stresses social environments as determining factors. This way of thinking claims that society molds individuals. On the other hand, the self-determination theory which is a psychological macro-theory advances a hypothesis according to which internal motivation is more important than social factors. According to the theory, individuals are above all intrinsically motivated. There are three main psychological needs, need for competence, autonomy, and relatedness, that play a key role in optimal development and functioning and hence well-being of every individual. Consumption can satisfy these needs at least for some time in case it is impossible to satisfy them in a more constructive ways (Deci, Ryan, 2012).

Theories referring to individual needs point to looking for motivation in individuals and their psychological needs. People consume mainly for such reasons as self-indulgence, treating oneself to fancy objects, self-esteem. The desire to achieve individual well-being is generally more important than satisfying social needs.

Consumption plays an important role in such fields as identity and self-esteem. Symbolic self-completion theory maintains that individuals seek identity-relevant objects to signal their identity to others. Possessions contribute to defining the self and become an

extension of one's identity. Individuals having problems with self-esteem will seek ownership of high-status goods as a means to attenuate this problem. This theory explains the problem of less well-off consumers overextending themselves financially to buy luxuries. The explanation might be their low self-esteem which is to be compensated with expensive objects. Low social status individuals are more prone to engage in status consumption which can be regarded as the result of a psychological drive to restore self-worth. "When the self is threatened, individuals consume high-status goods for their affirming and reparative effects to restore their self-worth" (Sivanathan, Pettit, 2010).

Psychological research has confirmed that the desire for status is an important force driving the market for luxury goods. From an evolutionary perspective, it has been argued that the human preference for luxury consumption originates from a universal tendency for signaling traits that might increase status. Research demonstrates that luxury goods are beneficial signals that bring social benefits, such as positive evaluations or compliance. Given that people desire to associate with the current social class position they are in or the class above them, they are more likely to buy branded products that convey affluence, wealth and social class. Buying luxury brand products enables consumers to meet psychological needs by symbolizing a certain consumption pattern and portraying a specific social class or by communicating meaning about their self-image and enhancing their self-concept (Nia et al. 2000).

Dubois et al. (2021) write:

Consumers' enduring desire for luxury largely derives from the need for status, that is, 'respect, admiration, and voluntary deference [...] afforded by others'. This need drives the way consumers select, use, and decode signals associated with high status in the marketplace, be it material objects, experiences, or knowledge. Status 'leaks' from these valued signals to their depositaries.

One can distinguish several sections of consumers on the basis of their psychological needs. Those concentrating on materialism can experience more pleasure buying luxury goods than less materialistic ones. On the other hand, materialistic individuals experience a higher level of depression and fears as they might lose their social status due to financial problems. Wealthy consumers low in need for status belonging to the old elite want to associate with their own kind and therefore they prefer quiet goods recognized only by the inner circle which are often associated with the elite and high social strata. In particular, such elites opt for subtle signals because they provide differentiation from the mainstream. People with more cultural capital are able to decode these subtle signals which facilitate communication among the insiders. Wealthy elites belonging to the so called 'new money' are usually high in need for status and they intend to show off consuming loud luxury. They signal to the less affluent that they are not one of them. Those who are high in need for status but cannot afford true luxury use loud counterfeits to emulate those they recognize to be wealthy (Han et al., 2010).

3. METHODOLOGY

This research was based on interviews with 26 young women from Poland aged between 20 and 30 years. To achieve the research objectives semi-structured interviews were conducted. The research falls into the qualitative category research since it attempts to examine the data in search for most common themes on the basis of opinions, personal

insights, or experiences. Qualitative research examines how and why certain experiences, behaviors and decisions occur (Korstjens, Moser, 2017). This sort of research involves formulating broader research questions which are not necessarily stated as questions, but rather as goals for the study. Sub-questions can be formulated as well. „They emerge from an overarching question and ask about the specifics of a topic/issue or a phenomenon” (Agee, 2009).

The interviews were conducted in October and November 2024. The sample included young women living in south-eastern Poland. The participants were interviewed by young female researchers to ensure they revealed freely their opinions, attitudes and experiences. Face-to-face interviews were conducted and recorded for later transcription with women who are interested in buying luxury goods (they buy luxury brands at least once a month). Only those who responded positively were then selected for the interview. The sample was diverse and included women of different occupational status and inhabitants of countryside, small towns as well as cities. To initiate interviews open-ended questions were asked which were related to the research question (pre-determined broad topic). The participants were given the opportunity to discuss in an open-ended way their opinions, personal insights and experiences connected with their luxury consumption and how they interpret luxury. Interviewees were free to provide information they felt was most relevant. Follow-up questions were asked based on the interviewees previous responses to elaborate the initial responses. The researchers then segregated the responses into meaningful themes looking for patterns in meaning. Gradually, primary and secondary themes and conceptual patterns emerged.

The main research question was as follows:

- How young women perceive luxury and why they consume luxury brands in the context of personal experiences, perspectives and feelings connected with luxury consumption?

Sub-questions were formulated as well:

- What is the perception of the role of social factors in determining the drivers and patterns of luxury goods consumption in young women?
- What is the perception of the role of psychological factors in determining the drivers and patterns of luxury goods consumption in young women?
- How young women perceive the role of physical characteristics of luxuries (design, quality) as a factor behind luxury brands purchasing?
- How young women experience shopping (ambience, service) in the context of purchase decisions?

The structure of respondents was as follows:

Participant	Age	Occupational status
Agata	24	student/graduate working full-time
Laura	21	student/graduate working part-time
Kinga	21	student/graduate without a permanent source of income
Gabriela	21	student/graduate without a permanent source of income
Estera	26	student/graduate working full-time
Magda	23	student/graduate working full-time
Aleksandra	27	student/graduate working full-time
Karolina	22	student/graduate working part-time
Justyna	22	student/graduate without a permanent source of income

Julia	22	student/graduate without a permanent source of income
Kasia	23	student/graduate working part-time
Alicja	22	student/graduate without a permanent source of income
Sylwia	23	student/graduate working part-time
Weronika	24	student/graduate without a permanent source of income
Basia	24	student/graduate working full-time
Jowita	25	student/graduate working part-time
Klaudia	26	student/graduate working part-time
Oliwka	21	student/graduate without a permanent source of income
Wiktoria	22	student/graduate without a permanent source of income
Dominika	23	student/graduate working part-time
Marlena	24	student/graduate working full-time
Ania	22	student/graduate working part-time
Marcela	21	student/graduate without a permanent source of income
Paulina	22	student/graduate without a permanent source of income
Maja	22	student/graduate working full-time
Anna	20	student/graduate without a permanent source of income

4. RESEARCH RESULTS AND DISCUSSION

The first explored theme was the perception of luxury. The analyzed women underlined that luxury products should be substantially more expensive than conventional middle-market goods. Their price should be higher by 40-80 percent. On the other hand, Women are increasingly aware of the quality of products and marketing techniques. They understand that some luxury brands are grossly overpriced and many of them offer products with qualities which do not differ substantially from the ones not branded as luxury. Therefore, they are not easily swayed by advertisements or influencers. In other words, they are aware that to some extent you overpay for the brand in exchange for psychological benefits.

The analyzed cohort included young women entering the luxury market. Their disposable monthly income varied between \$ 500 and 1200. Therefore, their purchasing power is limited and as a result, they started their luxury experience with fragrances and beauty products costing \$ 50-100. Their next aim is buying luxury accessories, such as shoes and bags. They belong to fast fashion consumers relying to a large degree on logos and internet hashtags with respect to their choices. Their preferred brands are within their financial grasp. These brands include Guess, Calvin Klein, Michel Kors, or L'Oreal. At the same time they are aspirational consumers and they would like to consume such brands as Dior, Prada, Chanel, or Charlotte Tilbury. The analyzed cohort show no great interest in niche brands. This proves that they are influenced by top brands but at the same time they are increasingly aware of the tricks of the trade in the luxury market. This is expressed by Agata, 24: *Real luxury goods do not shine with a brand name, they are not branded with a famous company logo. However, these are modest-looking, but at the same time elegant and chic goods that are made of really good materials and do not need promotion on the web or on TV.*

Another leading theme was the motives behind purchasing luxury goods. According to conventional wisdom derived from sociological writings, the main motivating factors include craving for status and certain brands which allows for impression management (signaling economic power), peer pressure or impression management (Mundel et al.,

2017). The current study disproves such assumptions. The interviewed young women concentrated on such aspects of consumption of luxury brands as building self-identity, self-gratification and self-worth. Their consumption motivations can be explained in terms of hedonic and experiential benefits. Wallpach et al. (2020) corroborate that young women value personal gratification and self-indulgence as well as reward and happiness.

They failed to show great interest in impressing peers (conspicuous consumption) or conforming to group values or patterns of consumption. Socially oriented consumption plays a greater role in case of collectivist societies or male consumers. Dominika 23 said in this context: *I also treat such purchases as an expression of self-respect. It's not about showing off to others, but rather reminding myself that I am worth the best. I feel more professional and self-confident. I also believe that such a lifestyle can motivate me to achieve more in life.*

There are several segments of consumers and in each case their perception of value in luxury brands is different (Wiedmann et al., 2009). For instance, for some consumers climbing up the social ladder is important (aspirational consumers who intend to show off) whereas for others value is derived from quiet consumption of luxury goods recognizable only to members of the inner circle. For young women psychological benefits of luxury brands consumption are more important than social benefits. Anna expressed the following opinion: *My decisions to buy luxury items are a result of the need to reward myself and feel exceptional. Luxury purchases give me a sense of happiness and satisfaction. I value these moments because they allow me to forget and celebrate myself, and this is also important in life.*

Theory of marketing points to tailored customer experience as the best way to sell luxury brand. The interviewed young women are attracted to such beauty retailers as Sephora in particular or Douglas (to a lesser degree). At the same time, they are not totally intoxicated with in-store experiences including ambience and exceptional service. Due to their limited resources they are more practical. The respondents stated to be more interested in the qualities of the product than in shopping experience. They look for the preferred brands and products at affordable prices. In their opinion e-commerce offers a wider selection of goods at lower prices. As a result, they opt for internet purchasing. Nevertheless, about half of them is prone to be sometimes affected by the glamour of brands or the shopping experience offered by beauty retailers. To sum up, the value of luxury relies for them more on quality and design than on marketing campaigns. They are divided over the value of advertising campaigns based on celebrities or celebrity-owned brands. Some studies point to the effectiveness of such manipulation techniques. However, the analyzed cohort is aware of such practices. Kinga 21 put it in the following way: *Often, luxury products are heavily branded and their prices are too high.*

The younger generation shows more interest in the consumption of luxury brands than their predecessors. At the same time their values and interests in luxury are quite different from those of previous generations. They tend to concentrate more on their own psychological needs at the expense of social life. Their internal well-being and identity is valued more than communicating their social status to peers. They use Internet to do market research and they have gathered the information necessary to rationalize their consumption choices and as a result, they are not easily swayed by the glamour of brands, celebrities promoting brands or advertisements. They associate luxuries with such functional benefits as quality, design, or innovativeness and as a result, they refuse to buy products only on the grounds that they are branded as luxuries.

5. CONCLUSIONS

With respect to the main research question, the obtained research results do not necessarily corroborate the entrenched views represented by sociologists, marketers or retailers concerning the consumption patterns of luxury brands with reference to young women. Consumers are characterized by individual perception of luxury value. The problem of luxury value is multidimensional but the weight of the dimensions differs from what is dictated by standard sociological reasoning. Sociology's core assumptions concentrate on consumption as communicative display. Meanwhile, the interviewed women do not attach great significance to such sociological aspects of consumption as status or prestige which is in line with the new culture which is intertwined with emotions. Rather, they tend to concentrate on the individual aspects of luxury brands consumption such as feeling and emotions within the psychological paradigm. Emotional consumption reflects the pursuit of spiritual satisfaction and it is influenced by social media. It corroborates that consumers do not always act rationally and they may sometimes get fully emotional focusing on the feelings like pleasure, happiness wanting to treat themselves to luxury. The desire to be satisfied with oneself, and gratification win the upper hand over impressing others. Young women just want to treat themselves to luxury items, considering consumption as an investment in pleasure and a gratification for their hard work and accomplishment. The analyzed cohort prefer individual value of luxury goods which denotes the creation of self-identity and such hedonic values as treating oneself to luxurious products as well as feeling and emotions connected with the purchase. Hedonic and experiential aspects of consumption are most important to them. Psychological factors prevail over social factors in determining consumption behavior in young women. In consequence, they have not grasped yet the concept of exclusive and quiet luxury which rely on timelessness and is recognized to inner circles. They are at the early stages of their luxury consumption development relying most often on the latest trends.

With regard to the research question concerning shopping experience, according to conventional wisdom the sellers should offer carefully crafted shopping experiences in temples of consumption. However, young women claim that buying cheaper products online provides substantial benefits over more expensive products bought in boutiques. Therefore, personally oriented aspects of consumption should take precedence over other facets of managing luxury brands marketing. If marketers try to sway young female customers they should concentrate on their internal needs related to feelings and emotions (psychological benefits of consumption) instead of on social life and communicating status.

Another research question related to the qualities of purchased products. Young women stand out as hedonic and experiential consumers influenced by psychological factors rather than socially oriented ones. At the same time, due to their increased awareness concerning the value of luxury products offered on the market, young women are not easily swayed by the glamour of brands or advertisements. For them, the product and its qualities matter more than marketing campaigns, the ambience offered by temples of consumption or boutiques. Shift in attitudes consisting in the growing importance of the very luxury products at the expense of shop experiences is therefore discernible. Yet, young women are not completely carried away by emotions when purchasing luxury products as they first tend to research the market. Their decisions are influenced by such factors as functional/utilitarian benefits, durability, quality, design and innovativeness which were expressed as important when making luxury purchases.

As far as avenues for further research are concerned, it would be worth investigating the changing borderline between affordable luxuries and ordinary products. Luxury is about escaping the mass and therefore, rarity is one of its qualities. Producers of mass luxuries always run the risk that their brands fall out of favor with young women by losing their aura of exclusivity.

All authors have read and agreed to the published version of the manuscript.

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IN THE SHADOW OF THE THREAT FROM WEIMAR GERMANY. ON THE ACTIVITIES OF POLISH COUNTERINTELLIGENCE IN UPPER SILESIA

In the autumn of 1918, after 123 years of partition, Poland regained its long-awaited independence. The Weimar Republic and Bolshevik Russia, unwilling to accept the provisions of the Treaty of Versailles, sought its revision – and, more specifically, war with Poland. The country's security was under serious threat. Despite the restrictions imposed at the Versailles Conference, Germany quickly managed to organize secret intelligence operations directed against Poland. The task of countering German espionage was entrusted to the Second Bureau of the General Staff of the Polish Army. The Abwehr's activities in Upper Silesia enjoyed particularly favourable conditions for conducting espionage. Polish counterintelligence authorities, however, faced numerous difficulties – especially the chronic shortage of funds to combat the influence of German intelligence. Furthermore, the protection of military secrets was insufficient and often misinterpreted. A gradual improvement in this regard became evident in the second half of the 1920s, when the effectiveness of counter-espionage efforts increased significantly, including within the territory of Upper Silesia.

Keywords: Abwehr, Second Bureau of the General Staff of the Polish Army, espionage, military secrets, counterintelligence.

1. INTRODUCTION

This article examines selected aspects of the activities undertaken by the Polish counterintelligence service in its efforts to counter the influence of the Abwehr in Upper Silesia. The subject of this study is both complex and wide-ranging. Its primary aim is to highlight the distinctive characteristics of secret intelligence operations – still only partially explored – within their broader historical and political context. The analysis relies extensively on archival materials. A careful examination of these sources, together with the presentation of their most significant dimensions, helps to elucidate the nature of

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special operations conducted by the field units of the Second Bureau of the General Staff. The current state of research on this issue remains insufficient, which fully justifies a renewed scholarly inquiry. Both Polish and German historians have addressed the subject only to a limited extent. Of particular note is the work of Edward Długajczyk, which focuses on the activities of the Polish intelligence service in Upper Silesia between 1919 and 1922.

2. AGAINST POLAND

Germany did not reconcile itself to the consequences of its defeat in the First World War. Under the provisions of the Treaty of Versailles, it was prohibited from conducting offensive intelligence operations. The 100,000-strong Reichswehr was intended solely as a formation responsible for maintaining internal order and protecting the nation's borders. The supreme military authorities were structurally adapted to the limited functions assigned to the Reichswehr by the treaty. Within the organizational framework of the Reich Ministry of Defence, a special unit was established to conduct intelligence and counterintelligence activities – known as the *Abwehr*. It was created in 1921 and formally disguised within the Statistical Department of the Military Office. The unit was headed by Major Friedrich Gempp. In practice, this office functioned as the General Staff of the Reichswehr within the Reichswehr Ministry (Cygański, 1989; Kopczyk, 1970).

Within the organizational structures of the Reichswehr's military district commands, local *Abwehr* branches—known as *Abwehrstellen* (*Abwehr* posts) – were established. Five of these conducted military intelligence operations directed against Poland (Cygański, 1989). These included *Abwehrstelle* I in Königsberg [Królewiec], II in Stettin (Szczecin), III *Berlin-Ost* in Berlin (with a sub-office in Frankfurt an der Oder [Frankfurt nad Odrą]), IV in Dresden [Drezno], and VIII in Breslau [Wrocław] (Kopczyk, 1970; Leverkühn, 1957).

The *Abwehr*'s intelligence operations directed against Poland possessed a distinctly offensive character, in contrast to the limited objectives of German military intelligence in the West (Cygański, 1989). Each *Abwehrstelle* employed a staff officer who served as the station chief, an assistant officer, several military clerks, and civilian officials.

In Silesia, the Breslau intelligence office – *Abwehrstelle Schlesien* – was particularly active. Established at the end of 1921, it conducted extensive espionage operations. Its activities, similar to those of the Breslau substation *Zweigstelle "Nuntia"*, extended across the western provinces – particularly Silesia – as well as the central and southeastern regions of Poland (Cygański, 1989).

In Upper Silesia, espionage activities were also carried out by the German Border Police (*Grenzpolizei*). The Political Department of the Police Presidium in Gleiwitz [Gliwice] supervised the work of police commissariats located in Gleiwitz, Hindenburg [Zabrze], and Beuthen [Bytom]. Each of these offices employed approximately a dozen staff members, most of whom were engaged in intelligence activities (Centralne Archiwum Ministerstwa Spraw Wewnętrznych [CA MSW], 1926, May 20, *Meldunek typu wojskowego, opracowany na podstawie informacji agenturalnych* [Military-type report based on agent information]).

A special section also operated within the headquarters of the Border Guard (*Grenzschutz*) in Oppeln [Opole]. The Oppeln office coordinated the activities of an intelligence bureau that served as an intermediary institution between the border outposts and *Abwehrstelle Schlesien* in Breslau. This bureau conducted offensive intelligence

operations, primarily of a military character (CA MSW, 1926, December 6, *Meldunek typu wojskowego, opracowany na podstawie informacji agenturalnych* [Military-type report based on agent information]).

In 1927, following the dissolution of the Inter-Allied Military Control Commission, a new stage began in the operations of the German intelligence services. Numerous organizational changes were introduced. The overall direction of intelligence activity was placed under military control. Despite the expansion of the military espionage apparatus, the authorities did not abandon cooperation with other governmental departments (CA MSW, 1927, March 11, *Pismo Ministerstwa Spraw Wojskowych do szefa Ekspozytury nr 4 Oddziału II Sztabu Głównego w Krakowie* [Letter from the Ministry of Military Affairs to the Head of Intelligence Post No. 4 of the Second Bureau of the General Staff in Kraków]; Ćwiąg, 2010). Several intelligence units considered ineffective were dissolved, while others underwent structural reorganization (CA MSW, 1927, *Wywiad i kontrwywiad niemiecki* [German intelligence and counterintelligence]; Gondek, 1974).

In Upper Silesia, the Police Presidium was located in Gleiwitz, with subordinate offices operating in Gleiwitz, Beuthen and Hindenburg. In Lower Silesia, by contrast, the Police Presidium was based in Breslau, with local branches situated in Breslau and Liegnitz [Legnica] (CA MSW, n.d., *Organizacja wywiadu i kontrwywiadu prowadzonego przez policję* [Organization of intelligence and counterintelligence conducted by the police]).

In the spring of 1928, the organizational structure of the Abwehr was expanded. It was transformed into an independent department (*Abwehr-Abteilung*), and the authority of the regional military intelligence offices was considerably strengthened (Cygański, 1987). The growing importance of the Abwehr largely stemmed from the influence of Colonel Kurt von Schleicher, head of the *Wehrmacht-Abteilung* within the Reich Ministry of Defence since 1926, who maintained close ties with Minister Wilhelm Groener. Colonel Schwantes was among Schleicher's closest collaborators.

In March 1929, the *Abwehr-Abteilung* was formally incorporated into the Reich Ministry of Defence. During this phase of organizational development, the Breslau-based *Abwehrstelle Schlesien* established its own specialized sections responsible for intelligence, radio interception, cipher operations, and counterintelligence (Cygański, 1989).

3. COUNTERING GERMAN ESPIONAGE

In October 1918, by decision of the Regency Council of the Kingdom of Poland, the Polish Army was established. Pursuant to the decree of 25 October 1918, the General Staff of the Polish Armed Forces was created. The existing Military Commission was transformed into the Ministry of Military Affairs (*Ministerstwo Spraw Wojskowych*, MSWojsk.), which became the supreme authority responsible for administrative and military affairs. The organizational work was supervised by Lieutenant Colonel Włodzimierz Zagórski (Pepłoński, 1999). Simultaneously with the establishment of the General Staff, an Intelligence Department (*Wydział Informacyjny*) was created, comprising divisions responsible for both intelligence and counterintelligence activities.

In the summer of 1921, pursuant to the decree of the Minister of Military Affairs dated 12 August of that year, the following Intelligence Posts (*Ekspozytury*) of the Second Bureau of the General Staff of the Polish Army (*Sztab Generalny [Główny] Wojska Polskiego*) were established: No. 1 in Wilno [Vilnius], No. 2 in Gdańsk [Gdansk], No. 3 in Poznań [Poznan], No. 4 in Kraków [Krakow], No. 5 in Lwów [Lviv], and No. 6 in Brześć

[Brest-on-the-Bug]. These units conducted intelligence and counterintelligence operations within the scope defined by the central headquarters of the Second Bureau (CA MSW, 1921, August 12, *Instrukcja ogólna dla służby Oddziału II Sztabu Głównego* [General instruction for the service of the Second Bureau of the General Staff]).

Personnel of Intelligence Post No. 1 were responsible for conducting special operations in Lithuania, Latvia, and Russia. The areas of interest of Intelligence Post No. 2 and No. 3 included Germany. Within the framework of Intelligence Post No. 4, the primary focus was on investigating the activities and influence of the intelligence services of Poland's western and southern neighbours.

In November 1921, the Ministry of Military Affairs established an Information Section attached to the Upper Silesian General Government, operating within the personnel structure of the Second Bureau's Intelligence Post. In the summer of 1922, after General Stanisław Szeptycki's Group had completed its mission in the Silesian area, Intelligence Post No. 4 was established in Katowice [Kattowitz]. In September of that year, the section responsible for countering German espionage was separated from the post's jurisdiction.

Subsequently, the Commander of the Fifth Corps District established an Information Section within the Headquarters Staff of the 23rd Infantry Division. This section dealt with counterintelligence and nationality-related matters (CA MSW, 1922, October 13, *Samodzielny Referat Informacyjny [SRI] Dowództwa Okręgu Korpusu V Kraków, Wytyczne Ministerstwa Spraw Wojskowych w sprawie utworzenia Referatu Informacyjnego w Kwaterze Głównej 23. Dywizji Piechoty w Katowicach* [Independent Information Section (SRI) of Corps District Command V Kraków, Guidelines of the Ministry of Military Affairs concerning the establishment of the Information Section at the Headquarters of the 23rd Infantry Division in Katowice]).

In 1924, the military authorities established Intelligence Post No. 2 in Upper Silesia, subordinated to the Katowice Intelligence Post. The post conducted counterintelligence operations of an offensive character. A legal advisory office was organized as a covert counterintelligence station. Inside Germany, an intelligence network operated through resident agents. The primary tasks of the post included identifying organizations engaged in espionage, sabotage, and subversive activity within the territory of Upper Silesia. These operations were confined to information gathering.

The Katowice Intelligence Post (No. 4) extended its operations beyond the Silesian region. It maintained officer posts in Cieszyn, Chrzanów, Nowy Targ, Ostrów Wielkopolski, and Częstochowa. The office employed agents in Opole Silesia [Oppeln], Beuthen [Bytom], Racibórz [Ratibor], Zabrze [Hindenburg], and Gliwice [Gleiwitz]. For several years, it also maintained a station in Berlin, which recruited collaborators among employees of the German Ministry of the Interior and the IG Farben industrial conglomerate.

Due to the complexity of national and ethnic issues in Silesia, the Katowice office devoted a considerable share of its efforts to counterintelligence operations (Cieplewicz, Zgórniak, 1969; Cwięk, 1999).

Of particular importance was the activity of the Independent Information Sections (*Samodzielne Referaty Informacyjne*, SRI), which operated within each Corps District Command as well as within the Naval Command. At the lowest level – in regiments, independent battalions, and certain garrisons – officers were appointed to serve as information officers.

The Independent Information Sections were, in certain respects, autonomous from the commands to which they were attached and were directly subordinated, in terms of service,

to the Second Bureau of the General Staff. The heads of the SRI possessed extensive authority not only over military units but also over state and private institutions involved in matters related to national defence (Kozaczuk, 1977; CA MSW, 1919, 29 September, *Tymczasowe przepisy o prowadzeniu służby wywiadowczej w Wojsku Polskim* [Provisional Regulations on the Conduct of Intelligence Service in the Polish Army]).

The Independent Information Section of Corps District Command V employed divisional counterintelligence units to carry out special operations. The counterintelligence unit attached to the 21st Infantry Division operated in the regions of Cieszyn Silesia [Śląsk Cieszyński] and Subcarpathia [Podkarpacie], covering areas including Nowy Targ, Nowy Sącz, Zakopane, and Żywiec. Meanwhile, the post attached to the 23rd Infantry Division conducted its operations in Upper Silesia and the Dąbrowa Basin (Zagłębie Dąbrowskie).

The range of tasks assigned to the Independent Information Section of Corps District Command V included, among others, countering German espionage, securing military plants, factories, and depots, as well as identifying German influence within Upper Silesian industry. The latter task was of particular importance. Upper Silesia contained a significant number of industrial enterprises, most of which remained under German control. Consequently, systematic efforts were undertaken to investigate all individuals holding managerial positions or exhibiting hostility toward Poland (CA MSW, 1925, 4 April, *Sprawozdanie SRI Okręgu Korpusu V* [Report of the Independent Information Section of Corps District V]; Pepłoński, 2002; Ćwiek, 2001).

The Independent Information Sections within the Corps District Commands played a crucial role in counterintelligence operations. Their responsibilities were extensive and included, among other tasks, countering the influence of foreign intelligence services, sabotage, and subversive activities; identifying individuals operating within military areas, war industries, and state, local government, or social institutions engaged in matters related to national defence; safeguarding military secrets; conducting investigations into cases involving the disclosure of classified information; and organizing educational and awareness programmes among soldiers to instill an understanding of the consequences of espionage.

The head of an Independent Information Section was formally subordinated to the Corps District Commander. However, in matters concerning the organization and supervision of the intelligence and counterintelligence apparatus, as well as the management of financial resources, he reported directly to the Chief of the Second Bureau of the General Staff.

The Counterintelligence Section within each "SRI" was responsible for tasks such as investigating individuals suspected of espionage, sabotage, or subversive activity; supervising ongoing espionage cases; and analysing intelligence materials related to espionage, sabotage, and subversion.

A key responsibility of the military counterintelligence service of the Second Bureau was the protection of military secrets. This issue had already been recognized during the formation of Poland's special services. However, in the early 1920s, efforts to safeguard classified military information against Abwehr penetration were far from adequate. Enlisted men and non-commissioned officers – often not vetted by counterintelligence authorities – had access to classified materials. Foreign intelligence services frequently obtained crucial information regarding the organization of the Polish Army through civilians employed in administrative offices or printing houses.

Agents of German nationality among Polish citizens were routinely exploited. In the summer of 1922, the Minister of Military Affairs, General Kazimierz Sosnkowski,

instructed Corps District Commanders to strengthen supervision over the enforcement of procedures concerning the protection of military secrets (Krzak, 2009; CA MSW, 1922, 4 August, *Pismo MSWojsk. do DOK VIII* [Letter from the Ministry of Military Affairs to Corps District Command VIII]).

Investigations into German espionage cases demonstrated that the Abwehr often obtained sensitive information through agents of German origin, particularly enlisted men and non-commissioned officers who had access to classified orders. These instances reflected a serious neglect of the principles governing the protection of military secrecy (CA MSW, 1924, 12 September, *Pismo gen. Edmunda Kesslera do podległych placówek w sprawie ochrony tajemnic wojskowych* [Letter from General Edmund Kessler to subordinate units concerning the protection of military secrets]).

By the late 1920s, the military authorities noted a marked improvement in the protection of military secrets. A key role in this process was played by the Independent Information Sections. It should be emphasized that the essence of these efforts lay in raising awareness among commanders and officer personnel about the scale of the threats posed by German intelligence. The proper implementation of this educational process helped to overcome passive resistance and to change prevailing attitudes within the ranks – a development expected to yield tangible results (CA MSW, 1928, 2–3 July, *Referat Oddziału II na odprawę kierowników SRI, w dn. 2–3 lipca 1928 r.* [Report of the Second Bureau for the conference of SRI heads]).

The Intelligence Posts of the Second Bureau examined the connections between German intelligence services and Upper Silesian industrial enterprises. The Abwehr was regularly informed, among other matters, about military contracts placed with the “Bismarck” steelworks, as revealed by documents obtained through counterintelligence operations. Within the framework of the Geneva Convention’s provisions, the Polish military authorities sought to limit German influence in the Polish-controlled part of Upper Silesia. They also endeavoured to coordinate joint efforts with the Ministries of Internal Affairs, Industry and Trade, and Labour and Social Welfare.

Polish counterintelligence expressed concern about the potential impact of German influence within Upper Silesian industry. The military authorities attached great importance to safeguarding the defence sector. The experience gained in this area made it possible to adjust protection plans for periods of mobilization and wartime operations (CA MSW, 1932, 15 July, *Pismo kierownika Ekspozytury SRI DOK V do DOK V* [Letter from the head of the SRI Intelligence Post of Corps District V to Corps District Command V]).

German intelligence services enjoyed particularly favourable conditions for their operations in the Silesian Voivodeship: the proximity of Germany, extensive communication and postal links, and significant assistance from German sympathizers residing in the Polish part of Silesia, as well as from local minority organizations. To this should be added the passivity of certain groups of Poles who were economically dependent on German industrial interests (Cygński, 1989).

Nevertheless, the Abwehr suffered numerous defeats in its struggle against Polish counterintelligence. In 1922, 112 German spies were brought before Polish courts. The largest number – 54 individuals – were apprehended within the jurisdiction of Corps District Command V in Kraków (CA MSW, 1922, *Statystyka spraw szpiegowskich i agitacji komunistycznej w wojsku za 1922 r.* [Statistics of espionage cases and communist agitation in the army for 1922], prepared by the Second Bureau of the General Staff; Cwięk, 2001).

The following year, the number of identified German agents decreased noticeably: 74 were tried, with the best counterintelligence results once again achieved by the offices subordinate to Corps District Command V, which apprehended 21 individuals (CA MSW, 1923, *Statystyka spraw szpiegowskich i agitacji komunistycznej w wojsku za 1923 r.* [Statistics of espionage cases and communist agitation in the army for 1923]).

In 1925, Polish counterintelligence uncovered seventy-three collaborators of the Abwehr, representing 9.5 percent of all individuals accused of espionage. The largest number of German agents – twenty-four – were apprehended within the jurisdiction of Corps District Command V (CA MSW, 1925, *Statystyka szpiegostwa i agitacji komunistycznej w wojsku za 1925 r.* [Statistics of espionage and communist agitation in the army for 1925]).

During the second half of the 1920s, counterintelligence posts in Silesia actively fought against Abwehr penetration. In 1926, the most effective institutions engaged in uncovering espionage on behalf of Germany were the Independent Information Section of Corps District Command V and Intelligence Post No. 4 of the Second Bureau of the General Staff. Together, they investigated the activities of thirty-five German agents, eighteen of whom were sentenced to imprisonment. The Information Section of Corps District Command V, working jointly with the police authorities, identified thirty spies, ten of whom received prison sentences.

A relatively large number – sixteen individuals suspected of espionage – were acquitted, while several agents managed to escape. The Political Police conducted seventeen espionage investigations; however, all of the accused were ultimately acquitted (CA MSW, 1926, *Statystyka szpiegostwa i agitacji komunistycznej w wojsku za 1926 r.* [Statistics of espionage and communist agitation in the army for 1926]).

Criminal prosecution of individuals charged with espionage on behalf of Germany remained a complex issue, dependent on numerous factors that are difficult to assess unambiguously. However, the number of agents identified by counterintelligence authorities was not the most significant indicator. The Second Bureau emphasized a marked improvement in counterintelligence techniques, which directly enhanced the effectiveness of espionage investigations. The Information Sections sought to ensure that the evidence gathered against individuals accused of espionage was systematically organized and substantiated with concrete documentation.

Efforts to counter the Abwehr and German subversive activities in Silesia were hampered by deficiencies in the existing legislation, which remained notably liberal and imprecise with regard to espionage offences. During the decade following the restoration of independence, Poland continued to apply the penal codes of the former partitioning powers, each of which addressed espionage in a different manner. In February 1928, the *Act on Penalties for Espionage and Certain Other Offences Against the State* came into force (Kozaczuk, 1977).

4. CONCLUSIONS

The Polish military authorities endeavoured to ensure that counterintelligence units effectively protected the armed forces from the influence of the Abwehr. Nevertheless, this issue was not approached with sufficient methodological consistency. The ambiguous stance of the authorities – manifested either in excessive liberalism or in undue caution concerning the protection of state and military secrets – adversely affected national

security. It may be assumed that this situation stemmed from the absence of well-developed operational procedures in this field.

Polish counterintelligence in Upper Silesia operated under exceptionally challenging conditions. Its performance during the 1920s is difficult to assess in unequivocal terms. When examined within the broader political and operational context, however, it can be concluded that it achieved relatively satisfactory results, given the limited resources available for countering German intelligence activities. The effectiveness of its operations is demonstrated, among other indicators, by the considerable number of espionage cases successfully investigated. Although the Polish counterintelligence services did not fully succeed in safeguarding all military secrets, they significantly impeded German espionage penetration and contributed to strengthening the overall security of the state.

The author has read and agreed to the published version of the manuscript.

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PARKING FEES AS AN ELEMENT OF URBAN MOBILITY MANAGEMENT

In the face of increasing urbanization and congested city centers, smart parking systems are becoming a key element of modern transportation infrastructure. The purpose of this article is to present the assumptions, functionality, and analytical capabilities of smart parking systems, as well as their role in improving the efficiency of urban mobility management. Particular attention is paid to the analytical potential of smart systems in the context of optimizing parking fees, increasing vehicle turnover, and supporting sustainable transport policies. The analysis is based on data from the smart parking system, including the number of tickets sold, payment methods used, and vehicle parking times. A comparative approach was used, combining data from 2021 to 2025, allowing for the identification of changes in user behavior in paid parking zones during the period of implementation and development of modern technologies. The results indicate a systematic increase in the use of mobile payments, average parking times within the short-term range, and higher vehicle turnover, demonstrating the increasing effectiveness of the fee system as a regulatory tool. These observations can be used in practice to shape rates and operational rules for paid parking zones, better align offerings with actual user needs, and support urban strategies aimed at reducing congestion and promoting more sustainable forms of travel.

Keywords: smart cities, smart parking systems, planning and management, parking fees, parking management.

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1. INTRODUCTION

The ever-increasing number of vehicles worldwide compels city authorities to define the direction of transport policy and implement it consistently through available organizational and legal instruments. A properly implemented parking policy is a crucial part of transport policy (Chou, Dewabharata, Zulvia, 2021; Dogru et al., 2017; Leo, Morillón, Silva, 2017). Developing parking policies has a significant impact on road user behavior and directly impacts the load on the road and street network, as well as on the parking systems themselves.

Paid parking zones are a widely used instrument for regulating the supply and demand for parking in urban centers around the world, including in Poland (Janak, Pritikana, Sanjaykumar, 2020; Dobrzański et al., 2023). They allow for the regulation of the number of vehicles entering and parking within the zone by introducing appropriate parking fees. The need to pay for parking in the most congested areas, such as large city centers, downtown areas, workplaces, public institutions, or retail spaces, forces drivers to change their transportation preferences and abandon cars in favor of more environmentally friendly and less burdensome public transportation, bicycles, scooters, or walking (Dobrzański, Śmieszek, Dobrzańska, 2020; Woods, Masthoff, 2017).

The introduction of a paid parking zone is an element of the cities' implementation of a sustainable development strategy, which aims to optimally divide transport tasks between public and individual transport (Niemets et al., 2021).

Effective management of paid parking zones poses many challenges, particularly due to their typically large territorial extent and the need to synchronize numerous components that must closely cooperate. Increasingly complex and sophisticated IT programs are emerging, allowing for the integration of individual components into a single system, their management, and the analysis of data collected by devices cooperating within a given zone (Hilmani, Maizate, Hassouni, 2018). Implementing such systems enables support for key decision-making and monitoring the proper operation of devices and processes within the paid parking system.

Cutting-edge smart parking solutions fit perfectly into smart mobility programs and smart city frameworks (Fokker et al., 2021; Battarra et al., 2018; Cruz, Paulino, 2020). City authorities and residents themselves are increasingly recognizing the costs and limitations associated with the impact of congested streets on both the economy and, above all, their quality of life (Yan-Ling, Xin, Ming-Chun, 2016). Smart cities promote alternative modes of transportation, such as city bikes, and encourage, and sometimes even compel, the use of public transportation. Providing residents with mobility, enabling quick group travel between different parts of the city, is crucial. Integrating various modes of transportation through specialized systems that are easily accessible to travelers is also crucial. The remaining part of the residents who stubbornly stick to using their own cars have to cope with many obstacles for many reasons. One of the main problems is finding a free parking space, which can result in increased search traffic, i.e. traffic related solely to looking for a parking space. This traffic is created by drivers moving around looking for a free street parking space within close proximity to their destination. This traffic is therefore not tied to any specific motivation other than finding a space. This increases its nuisance and means that it would not occur if parking spaces were readily available. This issue is important because the final leg of any journey that does not end in a reserved or private (own) parking lot is considered a process of searching for a parking space (Weinberger, Millard-Ball, Hampshire, 2017). Drivers travel along the street network near their destination, waiting

for a space to become available or searching for one (in the process, gradually moving away from their destination or circling nearby). The search process usually ends when the driver parks or does not find a free parking space within an acceptable distance from the final destination (which he or she will probably have to cover on foot) (Duda-Wiertel, 2018). Searching for a parking space is one of the main factors generating so-called senseless traffic. Repeatedly circling the streets while searching for a space accounts for up to 30% of this phenomenon (Dobrzański et al., 2023). Implementing intelligent solutions can significantly improve this situation (Bismantoko, Haryono, Widodo, 2018; Alkheder, Al Rajab, Alzoubi, 2016). One of the solutions that respond to the increasing negative phenomena associated with finding a parking space is the parking space occupancy system, which, thanks to the use of state-of-the-art technical and IT solutions, not only contributes to more efficient and effective management of urban space, but also generates a number of ecological and social benefits. Furthermore, it significantly reduces the time needed to find a free parking space, which translates directly into reduced traffic in the city center. Instead of needlessly circling the streets looking for a parking space, drivers have access to information (including from the mobile app and VMS variable message boards) about where available spaces are currently located, allowing them to park much faster. Information about the location of available parking spaces prevents vehicles from unnecessarily accumulating in one spot or on one street, and allows for optimal use of existing city infrastructure and parking management through the continuous flow of real-time data. Reducing vehicle traffic related to searching for available parking spaces significantly impacts the environment by reducing exhaust emissions from vehicles driving in paid parking zones and directly translates into reduced air pollution and noise. In addition to providing real-time information on parking conditions, the system also collects data that provides insight into individual transport traffic.

Therefore, we can observe an increase in the importance of intelligent parking systems, which, thanks to the collection and analysis of data, enable more informed decision-making by city managers and transport policy designers.

The aim of this article is to analyze the operation of the intelligent parking system in Rzeszów, based on data on parking times, payment methods, and ticket sales. The analysis aims to identify behavioral patterns among system users in various locations, assess payment method preferences and their changes over time, and detect the relationship between parking time and payment method.

This paper attempts to answer key questions regarding the operation of parking fees in urban mobility management: how the number of transactions changed between 2021 and 2025, how payment methods evolved, whether changes in parking duration were observed, and how fees affect vehicle turnover and user behavior. These questions guide the analysis of data from the smart parking system.

The article is divided into four parts. The first presents general assumptions regarding intelligent parking systems. The second chapter describes the city of Rzeszów and its implemented intelligent parking system, as well as the research methodology. The third chapter presents the results of the analysis of data collected from the intelligent parking system. The article concludes with a summary.

2. RESEARCH OBJECT AND RESEARCH METHODOLOGY

The research was based on data obtained from the Intelligent Parking System operating in Rzeszów. It is the first city in Poland to implement such a system. The research

methodology was based primarily on the analysis of data obtained from IT systems owned by the Municipal Administration of Markets and Parking Lots (MAMPL), which manages the Rzeszów Paid Parking Zone. Data from the parking space occupancy metering system, the parking ticket transaction database, transactions made through mobile app payments, and the area traffic control system were used for calculations.

Rzeszów is the capital of the Podkarpackie Voivodeship and the largest industrial, academic, commercial, service, and cultural center in southeastern Poland, close to the borders with Slovakia and Ukraine. As the largest center in the region, it has a significant socio-economic impact, and for the past decade or so, the city has been experiencing rapid growth, driven by population migration and increased mobility. The capital of the Podkarpackie Voivodeship is home to important road routes: the A-4 motorway, part of the Third Pan-European Transport Corridor, providing a connection between Western Europe and Ukraine, and the S19 expressway and national road No. 9, providing the shortest connection between Scandinavian and Baltic countries and Central and Eastern Europe. The E-30 mainline railway, of international economic importance, runs through the city, connecting Germany, Poland, and Ukraine. A major advantage of Rzeszów is the Rzeszów-Jasionka Airport, located 10 km from the city center, which handles passenger and cargo transport on both domestic and international routes. The city has a population of 197 000 and covers an area of 129.01 km².

It is also worth mentioning that Rzeszów is among the group of over one hundred European cities that will participate in the so-called Mission for Climate-Neutral and Smart Cities and one of five Polish cities that will belong to the group of 100 climate-neutral cities by 2030, declaring at the same time that the city is ready for changes towards climate neutrality from the organizational and technical side (<https://www.gov.pl/web/edukacja-i-nauka/5-polskich-miast-bedzie-uczestniczyc-w-unijnej-misji-dotyczacej-neutralnosci-klimatycznej>).

Over the years, Rzeszów has seen an increase in the number of inhabitants and the number of registered passenger cars (Figure 1).

In Rzeszów, transportation needs are primarily met by public and individual transport. Access to infrastructure, such as parking spaces, is essential for individual transport within the city. The current paid parking zone was established in 2016 as a result of the project “Improving the functioning of public transport in the center of Rzeszów by reducing transit traffic and introducing a paid parking zone”, co-financed by the European Union from the European Regional Development Fund under the Operational Programme Development of Eastern Poland 2007–2013. Attempts to regulate parking issues in Rzeszów date back to 1994, when parking fees were introduced on public roads in the city center. Payments could be made using parking meters, single-use parking passes, and daily and monthly subscription cards. The outer boundary of the paid parking zone in Rzeszów was determined primarily by the natural boundaries of the city. These include the railway tracks (northern and western boundaries) and the riverbed (eastern boundary). The zone was divided into two subzones: Subzone I, marked in blue, encompassing the city center and downtown Rzeszów, along with the area surrounding the railway station; and Subzone II, marked in orange, encompassing the areas surrounding the city center. Subzone II complements Subzone I. It encompasses the area surrounding Subzone I and is not interrupted by it. Subzone II serves a crucial function, separating Subzone I from the area without parking restrictions to the south, where there is no natural boundary. Besides providing convenient parking for residents, the buffer zone also provides a much larger area for the cars parked in the blue subzone, which ultimately improves the overall parking

situation within the paid parking zone. In 2020, work was carried out on a project to expand the paid parking zone to two additional estates adjacent to the current paid parking zone, reinforcing the primary goal of restricting vehicle access to the city center. As a result, two additional subzones were created in October 2020: Subzone III (green), encompassing the 1000-lecia estate, and Subzone IV (red), encompassing the Gen. “Grota” Roweckiego estate. The expansion of the zone was initiated by the residents themselves, who noticed constant problems with a very large number of cars parking and occupying parking spaces for most of the day.

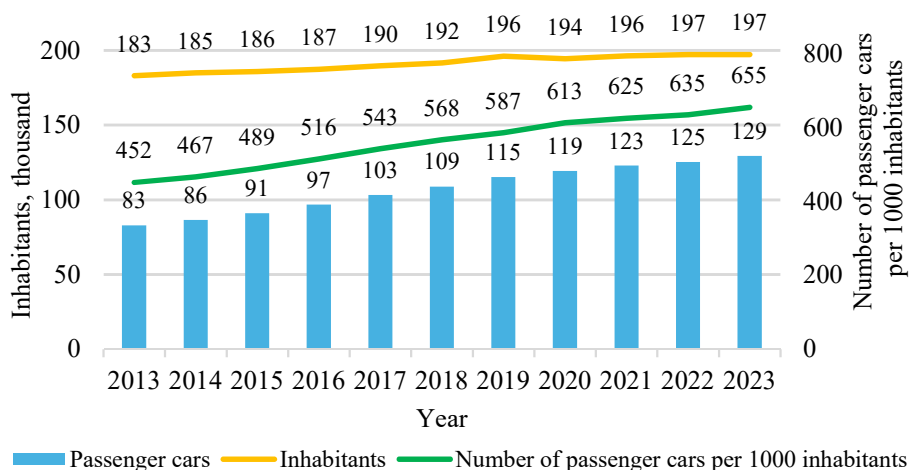


Figure 1. Selected indicators characterizing the city of Rzeszów: a) number of inhabitants, b) number of passenger cars, c) number of passenger cars per 1000 inhabitants

Source: Prepared on the basis of (<https://bdl.stat.gov.pl/bdl/dane/podgrup/teryt>).

In Rzeszów, the zone is in effect on weekdays, Monday through Friday, from 8:00 a.m. to 8:00 p.m. Parking is free at other times and on other days. The Paid Parking Zone is administered by the MAMPL in Rzeszów, an organizational unit of the Rzeszów City Hall.

In the field of smart parking, 2021 proved to be a breakthrough year, when a parking space metering system was developed within the paid parking zone in cooperation with the Rzeszów Municipality and Asseco Data Systems S.A. as part of the "Expansion of the Public Transport System in Rzeszów" project, funded by the Eastern Poland Operational Programme 2014-2020, as part of the task entitled "Expansion of the Paid Parking Zone System in Rzeszów with a Parking Space Metering System". The project was co-financed by over 80% of European Union funds (<https://pl.asseco.com/en>). Rzeszów is the first and only city in Poland to implement this type of solution for monitoring available parking spaces, based largely on camera image analysis, on such a large scale. This system perfectly aligns with the Smart City concept.

The subject of the contract was the design and launch of a parking space metering system in the Paid Parking Zone covering the area of subzone I (blue), subzone II (orange) and part of subzone IV (red), which is clearly visible in Figure 2 showing the limits of the system’s range.

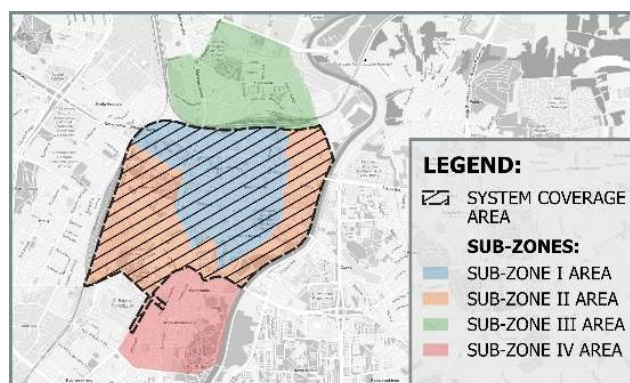


Figure 2. The limits of the parking space metering system range against the background of the subzones that make up the paid parking zone in Rzeszów

Source: own study.

The system has metered approximately 60% of all parking spaces in the SPP, and the share of the area covered by the system infrastructure in the entire zone is similar. The entire “blue” subzone I and “orange” subzone II are metered, as well as part of “red” subzone IV – approximately 17.88% of parking spaces. The remaining portion of the red zone and “green” subzone III are excluded from monitoring. The reason for excluding these areas from metering is that in subzones III and IV, most parking spaces are located in residential areas and are primarily used by residents. Subzones I and II, as well as part of IV, are established in the city center and its vicinity. These areas are primarily home to service and administrative facilities, which are frequently visited by people living outside these zones. Data from parking spaces is recorded using cameras or sensors. A significant disparity is evident here. Over 90% of parking spaces are within camera range, yet sensors are installed in only less than 10% of monitored spaces. From the outset, the system was designed to rely primarily on video analysis using neural networks. Parking sensors were used only in locations where the technical feasibility of installing camera infrastructure was not feasible. A detailed breakdown is provided in Table 1.

In addition to the direct impact this project has on residents, a parallel indirect function is being implemented, consisting of collecting highly accurate data on parking rates within the parking spaces covered by the system. This data can be exported from the central application in formats that allow for further processing and analysis. By analyzing this data, city authorities can make better and more accurate decisions regarding the operation of the paid parking zone and the entire parking system, translating into greater satisfaction for city residents and visitors.

Parking occupancy data is collected from the analyzed area 24 hours a day and transmitted via a dedicated fiber-optic network to the Paid Parking Zone Surveillance Center at the MAMPL. Information obtained from cameras and parking sensors detecting parked vehicles is displayed in real time on variable message boards and the e-PARKING mobile app.

Table 1. Summary of the number of parking spaces and areas covered by the occupancy measurement system in relation to all parking spaces and the area of the paid parking zone in Rzeszów

Categories	Cameras	Sensors
Number of parking spaces covered by the system	1883	196
Total number of parking spaces covered by the system	2079	
Percentage share of parking spaces covered by the system	90.6%	9.4%
Total number of parking spaces in the paid parking zone	3519	
Percentage share of places covered by the system	59.1%	
Area covered by the system	2.3 km ²	
Total area in the paid parking zone	3.8 km ²	
Percentage share of the paid parking zone area covered by the system	60.5%	

Source: own study.

The zone was divided into 130 sub-areas, each with 338 cameras installed on 237 supporting structures. Furthermore, to ensure adequate monitoring of parking spaces, a decision was made to install 312 battery-powered parking sensors with wireless communication.

The e-PARKING mobile app, available for Android and iOS, is a crucial part of the parking space occupancy information system in the Rzeszów paid parking zone (Figure 3). It provides drivers with the most up-to-date and detailed information about available and occupied spaces. This information is generated based on data from cameras and sensors that continuously monitor and analyze parking space occupancy. The app is designed to support users in real time while searching for available spaces, and to display individual available spaces within the selected parking area at the end of the journey.

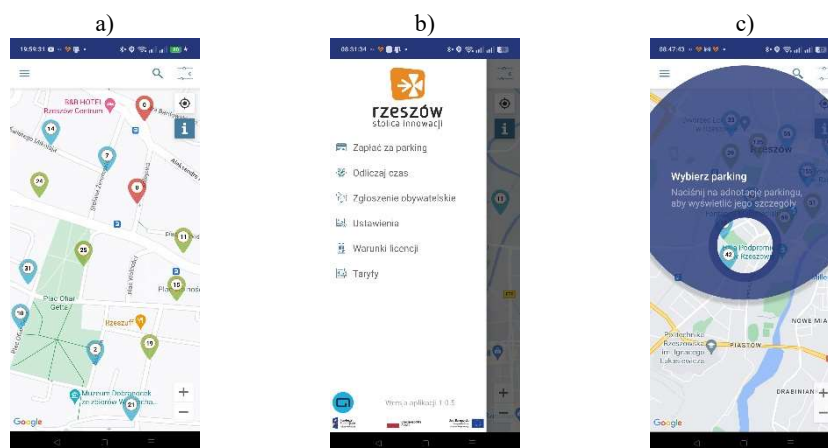


Figure 3. e-PARKING application map background (a), application menu (b) and tutorial for easy user operation (c)

Source: <https://play.google.com/store/apps/details?id=pl.assecods.matip&hl=pl>

The app utilizes navigation provided by Google Maps. The app makes it easy for users to find available parking spaces. The map displayed by the app makes it easy to locate

available spaces. During navigation, the system constantly checks whether the selected parking lot still has spaces. If all spaces are occupied, the app provides mechanisms that notify the driver in advance, allowing them to react and, if necessary, change their destination to a new space suggested by the system near their original choice. While navigating, the app also reports the number of drivers heading to the same parking lot at the same time. The app menu also includes a function that allows users to start a countdown to the end of their paid parking time if the fee was paid at a parking meter. The app sends a reminder before the designated time expires, allowing drivers to avoid additional fees for exceeding the parking time.

The central part of the metering system consists of parking management software in the form of integrated modules: the Parking Management Subsystem, the Space Occupancy Recognition Subsystem, and the Display Management Subsystem (the so-called central system application), and appropriately configured video monitoring software tools in the form of the Video Monitoring Subsystem. The parking management subsystems mentioned above are integrated internally at the user interface level.

The METROPOLIS central application helps manage the entire system, allowing for the configuration of individual modules and the monitoring of every connected device. It also allows for the generation of reports from data collected by the system and the processing of user requests.

A driver parking in the Paid Parking Zone is obliged to pay the parking fee in one of the following ways: purchasing a parking ticket at a parking meter with a clearly defined parking time and the registration number of the parked vehicle, paying the fee using a mobile payment system, purchasing one of the available types of subscription.

There are currently 217 parking meters installed in the Rzeszów Paid Parking Zone. Parking meters have been placed in the best visible places on the streets where paid parking spaces are located.

Monitoring of paid parking zones by inspectors is a key element in ensuring the proper functioning of the city's parking infrastructure. Inspectors regularly patrol designated zones, verifying that parking fees have been paid by drivers. In carrying out their duties, they utilize modern tools, such as license plate readers, to quickly and effectively detect violations and issue any fines.

The research results presented in this paper are based on data obtained from an intelligent parking system. The data were provided by the MAMPL, which manages the aforementioned system. Data from the paid parking zone from 2021 to 2025 were analyzed. The dataset includes information on parking time, the number of tickets sold, and payment methods, broken down by zone. The research was conducted in several stages. First, an initial data exploration was conducted, which verified the completeness and consistency of the data. The next stage involved aggregation and grouping of the data, followed by analysis of the obtained results and identification of relationships between the studied parameters. A spreadsheet was used to prepare the data obtained from the system. Built-in functions enabled the calculation of the analyzed parameters after appropriate aggregation and grouping. The study was descriptive and comparative. The analysis involved compiling data from individual years to identify changes in the number of transactions, the structure of payment methods used, and average parking times.

3. RESULTS AND DISCUSSION

Modern city management increasingly relies on data, which enables accurate and informed administrative decisions. Paid parking systems, as part of urban infrastructure, provide valuable information on the behavior of residents and users of urban spaces. Analyzing such data can support local authorities not only in transport management but also in shaping financial policy, developing digital public services, and improving residents' quality of life.

The primary goal of the zone is to regulate the number of vehicles in the city, aiming to increase vehicle turnover, reduce parking times, and change citizens' travel habits toward greater use of public transport. Travel patterns in Rzeszów and neighboring municipalities still rely too heavily on cars and too little on public transport or other forms of transportation. Therefore, proper urban mobility management is crucial.

This chapter presents an analysis of the number of purchased parking tickets, preferred payment methods, and parking time. This analysis allows us to identify usage patterns and better understand the needs of system users. This type of analytical data can support decision-making processes related to strategic planning, implementing innovations in city services, and optimizing city policies in the areas of mobility, finance, and citizen services.

The analysis of the first parameter, preferred payment methods, aimed to assess drivers' preferences regarding payment methods and their changes over time. One-off parking fees in the Rzeszów Paid Parking Zone can be paid at parking meters in cash, by credit card, and using mobile applications from external operators. Analysis of the chart in Figure 4, which presents data based on the number of transactions made in the Paid Parking Zone over a three-and-a-half-year period, reveals certain trends in the distribution of payment methods for vehicle parking.

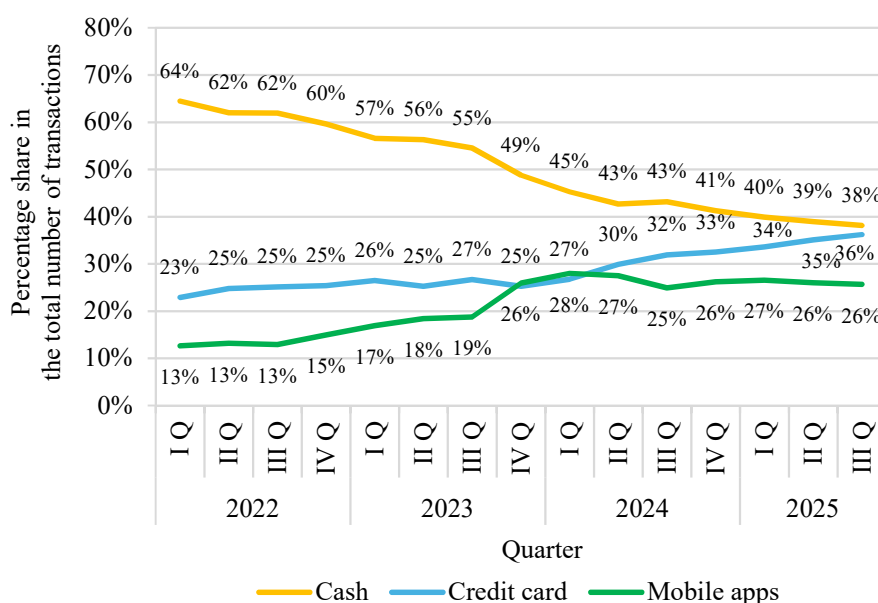


Figure 4. Division of transactions related to parking fees by type and method of payment
 Source: Own study based on data obtained from the MAMPL in Rzeszów.

Analysis of the graph (Figure 4) shows that the vast majority of purchases are still made using parking meters, using cash or payment cards. However, the trend is decreasing. In 2022, the share of parking meters in the total number of transactions exceeded 87%, while at the end of the second quarter of 2025 it was just over 74%. Payment methods at parking meters are also changing. Over the analyzed period, the share of cash transactions decreased by over 26 percentage points, while the share of cashless transactions increased by over 13 percentage points. During the analyzed time period, there was also a significant increase in the number of transactions made via dedicated mobile applications, from 12.6% in the first quarter of 2022 to a maximum of 28% in the first quarter of 2024. The fourth quarter of 2023 was a characteristic period, with an increase of approximately 7 percentage points in the number of payments made via mobile applications. This situation was related to a failure of some parking meters at that time, which prevented residents from making cash or card payments. In subsequent quarters, the level of payments using mobile apps remained similar to the fourth quarter of 2023. This may indicate that residents appreciated this form of payment and did not return to cash solutions. The continuation of the observed changes in payment methods may soon make it possible to abandon cash in the parking meter system, while maintaining only digital and cashless forms of payment.

Payments within individual zones were also analyzed (Figure 5). The percentage share of payments made in cash and by payment card was determined. A systematic decline in cash payments is observed in favor of payment card payments. Each of the analyzed zones has a similar share of payment card payments compared to cash payments. In 2021, the share of card payments ranged from 19.5% (red zone) to 22.9% (blue zone). By 2025, the share of card payments ranged from 44.3% (red zone) to 49.1% (blue zone). Analyzing the individual zones, it can be observed that the blue zone has the highest share of payment card payments, while the red zone has the lowest share. The observed trend demonstrates a systematic increase in the share of cashless payments, which indicates the ongoing digitalization of services and greater accustomedness of residents to modern forms of payment.

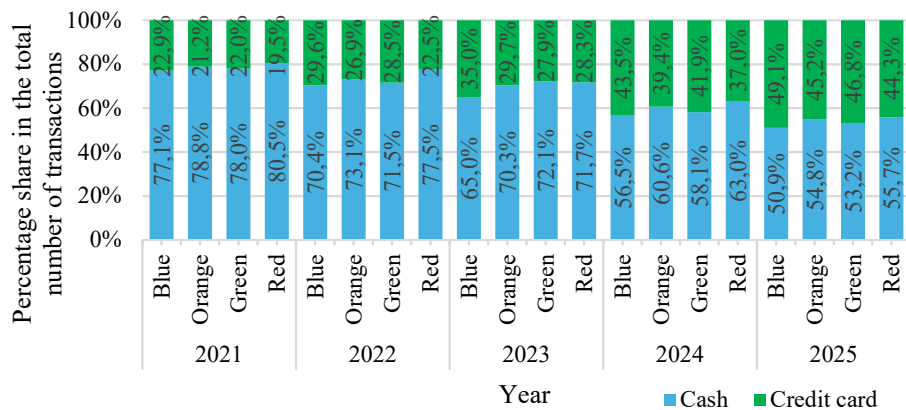


Figure 5. Share of cash and card payments in individual zones for the period 2021–2025

Source: Own study based on data obtained from the MAMPL in Rzeszów.

Figure 6 presents a map of the paid parking zone with the share of cash and credit card payments in 2021 and 2025. A significant increase in the share of credit card payments is noticeable in all zones.

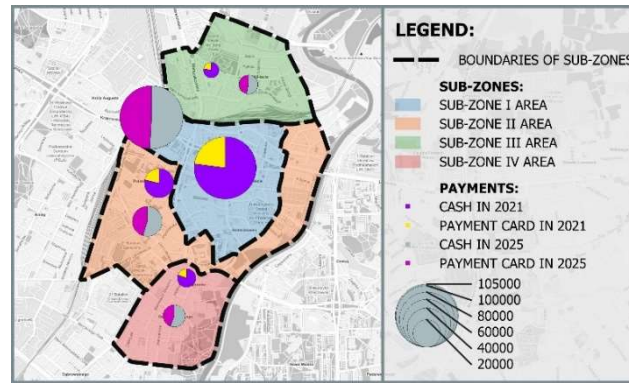


Figure 6. Share of cash and card payments in individual zones for year 2021 and 2025

Source: Own study based on data obtained from the MAMPL in Rzeszów.

The next parameter analyzed is the average parking time. In this case, data for July and August from 2021 to 2025 were analyzed. Parking time was calculated based on purchased tickets (parking meters, mobile apps). Based on the obtained results (Figure 7), a continuous increase in this time can be observed. The shortest average parking time was obtained for 2021, at 49 minutes in both July and August. In 2022, this time increased by 28.6% for July and by 30.6% for August. In 2023, a slight decrease in average parking time was observed, 1.6% for July and 3.1% for August. An increase in this time is observed in the following years, 2024 and 2025. For 2025, the average parking time in the analyzed months was 68 minutes. Compared to 2021, this time has increased by 39%.

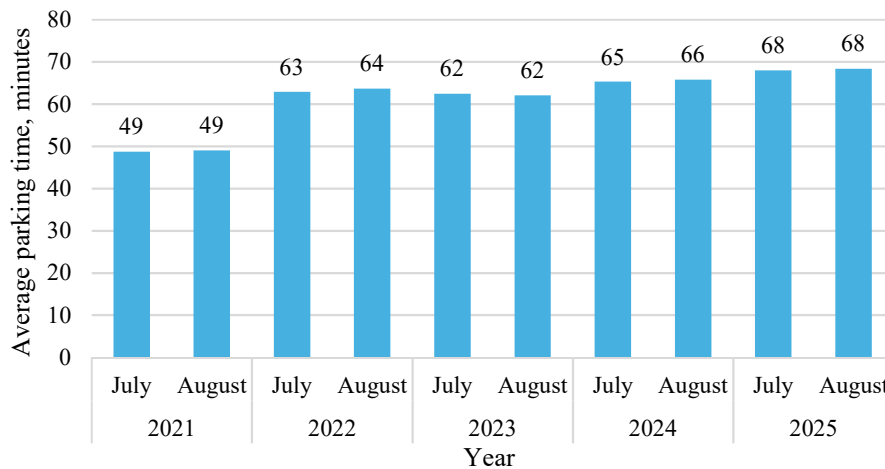


Figure 7. Average parking time in the Paid Parking Zone

Source: Own study based on data obtained from the MAMPL in Rzeszów.

The slight reduction in average parking time observed in 2023 may be due to increases in parking fees that occurred in 2022 and 2023. These increases were primarily intended to increase the turnover of vehicles parked in paid parking spaces. In the following years, 2023 and 2024, parking fees were not increased, and the average parking time systematically increased by approximately 5% year-on-year. This can be explained by drivers' growing tolerance for parking costs. This indicates that the current fee level does not discourage long stops, and users are increasingly willing to pay more for the convenience of parking close to their destination. An important factor that may also have contributed to the increase in average parking time is the extension of the paid parking zone hours from 9:00 AM to 5:00 PM to 8:00 AM to 8:00 PM. This extension took place in January 2023. In this case, afternoon and evening transactions were also recorded, which may have been related to the cultural and entertainment activities of residents. Longer parking periods can be expected, which influenced the estimated average parking time. This issue requires further analysis and will constitute further research directions for the authors. The results indicate that the average parking time falls within the short-term range. The upper limit of this range, as used in European cities, including Polish ones, is 1–2 hours. This indicates a high level of parking space turnover, which may indicate that the pricing system effectively encourages drivers to make short stops and vacate spaces quickly. This model favors the availability of spaces in high-traffic zones and with high parking demand. The results are consistent with the data presented by (Dobrzański, Dobrzańska, 2025) which examined, among other things, the turnover rate for selected streets in Zone I.

The number of tickets purchased in the analyzed months of July and August for the years 2021–2025 was also analyzed. The results are presented in Figure 8. A similar number of transactions is observed in the analyzed periods. A similar number of transactions may indicate the system's maturity and the predictability of user behavior, which is of significant value for urban planning, particularly in the context of forecasting budget revenues and mobility management.

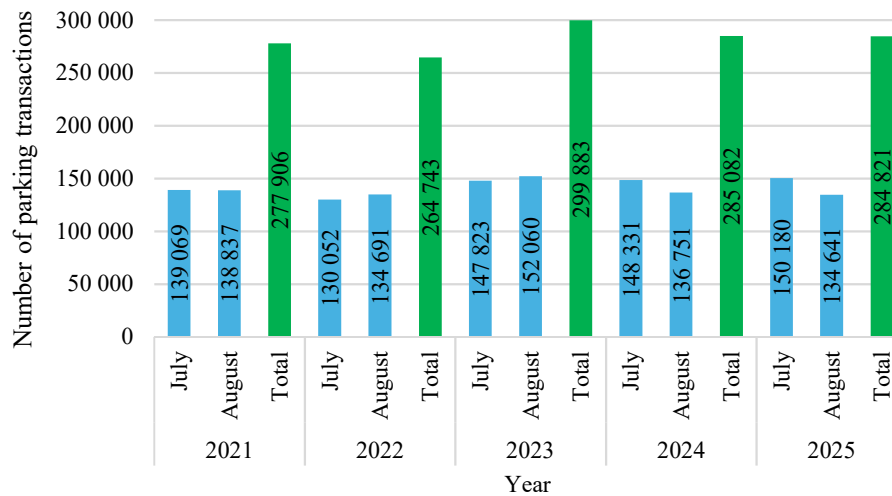


Figure 8. Number of parking transactions for July and August in 2021–2025

Source: Own study based on data obtained from the MAMPL in Rzeszów.

In 2022, the lowest number of transactions was recorded, reaching 264,743 for the two months analyzed. This may be due to an increase in parking fees. However, the next increase in parking fees, which occurred in 2023, did not result in another decrease. On the contrary, the number of transactions increased by over 13% compared to the previous year. The increase in transactions may also have been influenced by the extension of paid parking zone hours from 9:00 AM to 5:00 PM to 8:00 AM to 8:00 PM, as well as residents' acceptance of parking costs.

4. CONCLUSIONS AND DIRECTIONS FOR FUTURE RESEARCH

Research on data obtained from paid parking systems – including analysis of parking times, payment methods, and ticket sales trends – has both practical and strategic implications. It enables, among other things, the identification of behavioral patterns among users of paid parking zones, the optimization of tariffs and payment infrastructure (e.g., the development of mobile payments), and better adaptation of parking policies to the actual needs of residents and visitors. Furthermore, the results of such analyses can serve as a basis for implementing dynamic solutions: differentiating prices based on time of day or location, increasing vehicle turnover in key city locations, or better planning investments in parking infrastructure.

An analysis of parking data in the Paid Parking Zone for 2021–2025 indicates several significant trends. Average parking times are systematically increasing, which may indicate a greater tolerance for parking costs. Despite this, the number of purchased parking tickets remains similar, suggesting a stable number of drivers using the zone, albeit with longer parking times. At the same time, there is a noticeable steady increase in the share of payment cards, particularly in the city center. This may be due to the greater availability of modern devices and the popularization of mobile apps. The results of the analysis could provide the basis for further adjustments to parking policy, including a review of the fee system and the promotion of parking space rotation.

The observed stability in the number of transactions and the increase in the share of mobile and cashless payments may indicate a positive impact of convenience on the acceptance of parking costs. These phenomena may be correlated, which is worth considering in further analyses of system user behavior.

All authors have read and agreed to the published version of the manuscript.

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POLITICAL ECONOMY OF RESOURCE MANAGEMENT AND ENVIRONMENTAL GOVERNANCE: AN EMPIRICAL ANALYSIS OF NIGERIA

This study examines the political economy of resource management in Nigeria, with a focus on governance quality, accountability mechanisms, environmental sustainability, and economic diversification. Drawing on institutionalist, political economy, and rational choice perspectives, the study analyses indicators, including oil revenue dependence, transparency and accountability metrics, environmental governance, socio-economic outcomes, and sectoral contributions to GDP. The findings reveal persistent oil dependence, weak institutional enforcement, environmental degradation, and limited diversification, despite incremental improvements in transparency and host community fund compliance. These outcomes reflect the interplay between extractive institutions, elite rent-seeking, and structural constraints that inhibit sustainable development. Policy implications highlight the need for robust institutional reforms, enhanced accountability, equitable fiscal distribution, environmental remediation, and strategic economic diversification to break the cycle of resource dependence. The study contributes to the understanding of how governance structures, incentive frameworks, and policy interventions shape the utilization of natural resources in resource-rich developing economies.

Keywords: resource management, governance quality, economic diversification, accountability mechanisms, environmental sustainability, Nigeria.

1. INTRODUCTION

The political economy of resource management in Nigeria is a fundamental determinant of the nation's development path, strongly influenced by its vast natural resource endowment, especially oil and gas. Historically, the hydrocarbon sector has dominated economic activity, accounting for a significant proportion of government revenues and export earnings (Adewale, Bakare, 2020; OPEC, 2023). Despite this wealth, Nigeria continues to confront persistent developmental challenges, including excessive

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dependence on oil, weak institutional frameworks, corruption, and inadequate economic diversification, which reflect the classic resource curse phenomenon (Humphreys, 2021). This overreliance on oil exposes the economy to global price fluctuations, creating fiscal vulnerability, volatility in non-oil sector growth, and macroeconomic instability (Mgbomene et al., 2025).

Governance failures remain central to Nigeria's resource management challenges. Institutions tasked with oversight and accountability, including the Nigerian Extractive Industries Transparency Initiative (NEITI) and the Public Accounts Committee, have faced limitations due to political interference, weak enforcement mechanisms, and vested elite interests (Pezaro, Olusanya, 2020; Odeyemi, Oluwatobi, 2022; Transparency International, 2024). Corruption and mismanagement within the oil sector have led to widespread revenue leakage, undermining equitable distribution and constraining investments in public infrastructure, healthcare, and education (Nnocent, Ibrahim, 2019). These governance deficits are compounded by institutional incapacity, as highlighted by ongoing inadequacies in monitoring environmental compliance, enforcing gas flaring penalties, and implementing host community development initiatives (Ogunleye, 2021).

The socio-environmental implications of resource mismanagement are profound, particularly in the Niger Delta, where decades of oil exploration have produced severe ecological degradation, including oil spills, gas flaring, and soil and water contamination. These environmental externalities exacerbate socio-economic inequality, health risks, and local conflicts, demonstrating the intertwined nature of environmental governance and sustainable development (Ite, U., Ite, M., 2020). The concentration of resource wealth among a narrow elite has amplified regional disparities and reinforced political patronage systems, thereby limiting the redistributive potential of oil revenues (Okereke, Ladan, 2022).

Nigeria's development challenges are further compounded by demographic and labor market pressures. With a population exceeding 223 million, approximately 63% live in multidimensional poverty, youth unemployment exceeds 50%, and inflation has surged to over 33% in April 2024, increasing inequality and food insecurity (National Bureau of Statistics; World Bank, 2023). These structural and socio-economic vulnerabilities underscore the urgency of addressing resource dependence, institutional weaknesses, and governance gaps to achieve sustainable and inclusive development (UNDP, 2023; Aiyede, 2023).

The theoretical framing of this study draws on rational choice theory and institutionalist perspectives to understand the incentives and behaviors of actors in Nigeria's resource sector. Rational choice theory suggests that political and bureaucratic elites make strategic decisions to maximize self-interest, often at the expense of societal welfare, which helps explain persistent rent-seeking and policy capture (Wright, 2017; Coleman, 1990). Institutional and political economy approaches emphasize the structural and historical determinants of resource governance, highlighting how weak institutions, asymmetric power relations, and entrenched extraction patterns constrain policy effectiveness and economic transformation (Acemoglu, Robinson, 2012).

In response, the Nigerian government has undertaken several reforms, including the Petroleum Industry Act and initiatives to enhance transparency, local content, and accountability. While these efforts have improved compliance metrics and increased revenue reconciliation, systemic challenges limit their transformative potential (BudgIT, 2022; Pezaro, Olusanya, 2020). Furthermore, global pressures, such as the transition to renewable energy and climate change imperatives, highlight the need for sustainable

resource policies and economic diversification to reduce vulnerability to external shocks and ensure long-term development (IPCC, 2022; Rockström et al., 2023).

The present study examines the political economy of resource management in Nigeria, focusing on governance, accountability, and sustainable development. It seeks to elucidate how institutional arrangements, elite incentives, and policy interventions interact to shape the management of natural resources, and how these dynamics affect socio-economic outcomes and development trajectories. By integrating theoretical insights with empirical analysis, this study contributes to understanding the structural, institutional, and policy dimensions necessary for achieving equitable and sustainable resource utilization in Nigeria.

2. THEORETICAL REVIEW

The theoretical foundations for understanding Nigeria's resource management challenges are anchored in the intersection of political economy, institutionalism, governance theory, and rational choice perspectives. A dominant strand in the literature is the political economy of institutional quality, which argues that the distribution of power and incentives embedded within political institutions fundamentally shapes economic outcomes. Acemoglu and Robinson's (2012) institutional theory offers a central explanatory framework, positing that nations fail when they develop extractive political institutions that concentrate resources and limit broad-based participation; this thesis resonates strongly with Nigeria's historical and contemporary struggles with oil-driven governance structures. Karl's (1997) "paradox of plenty" further deepens this understanding by demonstrating how resource-rich states become locked in cycles of rent seeking, elite capture, and fiscal volatility, conditions extensively documented in the Nigerian context by Humphreys (2021) and Iledare (2021). These resource-curse interpretations emphasize that oil abundance generates perverse incentives: political elites derive rents from extraction rather than productive economic activity, while state institutions remain weak, unaccountable, and unable to enforce the rule of law.

Governance theory also provides a critical analytical lens for examining the institutional behaviour of state actors. Levi-Faur (2012) describes governance as a complex system of interactions among state, market, and civil society actors, requiring transparency, accountability, and regulatory effectiveness. In Nigeria, however, multiple studies have shown that governance deficits, particularly corruption, opacity, and institutional fragmentation, undermine the effective management of oil resources (Odeyemi, Oluwatobi, 2022; Pezaro, Olusanya, 2020; Ehiorobo, 2018). These weaknesses are further illustrated in the consistent findings of Transparency International's Corruption Perceptions Index (2021; 2023; 2024), which highlights Nigeria's persistently low performance on global corruption metrics. The inability of state institutions to manage oil revenues efficiently is also captured in NEITI's audit reports (2022; 2023), which reveal patterns of revenue leakages, unremitted funds, and regulatory inconsistencies. Such governance failures, as Okolo and Akpokighe (2014) suggest, reinforce a cycle of mismanagement that compromises national development planning and deepens socioeconomic inequalities.

Complementing governance theory, rational choice perspectives illuminate how both state and non-state actors make strategic decisions in resource-rich environments. Rational choice frameworks argue that actors pursue actions that maximise personal or institutional utility, often in ways that may conflict with broader developmental goals (Coleman, 1990).

Wright (2017) emphasize that political elites calculate the benefits of rent extraction against the costs of institutional reforms, helping to explain why Nigeria's governance outcomes deviate from efficiency-maximising or welfare-enhancing expectations. Within this logic, corruption and resource capture are rational outcomes in contexts where institutional sanctions are weak and opportunities for illicit gain are abundant (Ogunleye, 2021).

Political ecology and environmental governance theories also contribute significantly to understanding resource management in Nigeria, especially regarding the Niger Delta. Watts' (2019) political ecology perspective demonstrates how oil extraction has generated environmental degradation, conflict, and community displacement, while UNEP's (2022) environmental assessments document severe ecological damages linked to decades of poorly regulated extraction. Ite and Ite (2020) argue that environmental mismanagement reflects both institutional weakness and the prioritization of oil revenues over ecological sustainability. Global frameworks on planetary boundaries and climate mitigation, such as those articulated by Rockström (2023), the IPCC (2022), underscore the urgency of adopting circular economic strategies and climate-sensitive governance approaches, a gaps still evident in Nigeria's resource governance system. Okereke and Ladan (2022) argue that resource wealth in Nigeria has produced entrenched regional inequalities due to inequitable revenue distribution frameworks and uneven development policies. Otoghile et al. (2014) highlight how ethnicity and political patronage shape access to state resources, reinforcing structural inequalities and undermining national cohesion.

3. METHODOLOGY

The paper adopts the Rational Choice Theory (RCT) as the core analytical framework for the empirical aspect. RCT posits that actors, whether individuals, bureaucratic agencies, or political elites, are utility-maximizers who make strategic decisions based on a calculated assessment of costs and benefits (Coleman, 1990). The theory assumes that rational decision-making should lead to choices that enhance collective welfare, reduce inequality, and ensure efficient resource utilization (Coleman, 1990). However, persistent challenges in Nigeria, including corruption, mismanagement, and weak accountability, highlight a significant divergence between the rational, welfare-enhancing outcomes predicted by the theory and the realities of the country's resource governance practices.

The model applied in this analysis assumes that the outcomes of resource management (O_{rm}) are a function of the interactions between key actor groups, primarily political elites (A_p), bureaucratic institutions (A_b), and multinational/corporate entities (A_c), within a specific institutional and incentive structure (I_s).

The relationship can be conceptually framed as:

$$O_{rm} = f(A_p, A_b, A_c | I_s) \quad (1)$$

Where I_s is defined by formal rules (laws, contracts) and informal norms (patronage, corruption). The utility functions for these actors are often misaligned with national welfare. For instance: A political elite's utility (U_{elite}) may prioritize political survival and patronage (P) over long-term development (D), such that $U_{elite} = \alpha P + \beta D$, where $\alpha \gg \beta$. A bureaucratic agency's actions may seek to maximize budget allocations or opportunities for rent extraction (R) rather than regulatory efficiency (E).

This study adopts a qualitative research design to systematically examine the political economy of resource management in Nigeria, with a specific focus on governance, accountability, and sustainable development. The methodology is grounded in a documentary analysis of secondary data, augmented by thematic content analysis, to interrogate the complex interplay of institutional structures, actor incentives, and policy outcomes. The theoretical lens of Rational Choice Theory (RCT) provides the framework for analyzing the decision-making calculus of key actors within Nigeria's resource governance ecosystem.

The investigation relies on a comprehensive review of secondary data from diverse, credible sources to ensure triangulation and depth. The data corpus includes official reports from Nigerian institutions such as the National Bureau of Statistics (NBS), the Nigerian Extractive Industries Transparency Initiative (NEITI), and the Central Bank of Nigeria (CBN). Key legislative documents, including the Petroleum Industry Act (2021) and the National Development Plan (2021-2025), were analyzed. Also, data are sourced from publications from entities such as the World Bank, International Monetary Fund (IMF), United Nations Development Programme (UNDP), and Transparency International, which offer comparative data and governance indices. A detailed overview of the key variables examined, their operationalization, and corresponding data sources is presented in Table 1.

Table 1. Variable Definitions and Data Sources

Variable	Operational Definition	Primary Data Source(s)
Resource Dependence	The proportion of government revenue and export earnings derived from hydrocarbon resources.	OPEC (2023) Annual Statistical Bulletin; NEITI (2022) Oil & Gas Industry Reports; CBN Statistical Bulletins.
Governance Quality	The efficacy, transparency, and integrity of institutions managing resource revenues. Measured by composite indices and specific case analyses.	Transparency International Corruption Perceptions Index (2021, 2023); World Bank Worldwide Governance Indicators; NEITI audit reports.
Accountability Mechanism Efficacy	The functionality of formal institutions and processes designed to ensure transparency and answerability in revenue flow and management.	Analysis of NEITI's implementation challenges (Pezaro, Olusanya, 2020); Reports on legislative oversight by the Public Accounts Committees.
Fiscal Distribution Equity	The fairness and developmental impact of revenue allocation across federal, state, and local tiers, and to resource-host communities.	Analysis of the Federation Account Allocation Committee (FAAC) data; Critique of the 13% derivation principle and PIA Host Communities Development Trust (BudGIT, 2022).
Environmental Governance	The stringency of regulations and effectiveness of enforcement regarding oil spill management, gas flaring, and ecological remediation.	UNEP (2022) Niger Delta reports; National Oil Spill Detection and Response Agency (NOSDRA) data; Academic studies (Ite, U., Ite, M., 2020).
Socio-Economic Development	Multi-dimensional outcomes linked to resource wealth, including poverty levels, infrastructure access, and unemployment.	National Bureau of Statistics (2022) Multidimensional Poverty Index; World Bank (2023) Development Indicators; UNDP (2023) Country Reports.
Economic Diversification Effort	Policy initiatives and tangible outcomes in reducing reliance on oil through investment in alternative sectors like agriculture and renewable energy.	Review of policy frameworks (ERGP, National Development Plan); IMF (2023) Article IV Consultations

Source: Author's Compilation (2025).

4. RESULTS

Table 2 highlights Nigeria's persistent reliance on hydrocarbon revenues between 2019 and 2023, with oil accounting for more than 75% of total government revenue and over 88% of export earnings throughout the period, confirming long-standing analyses that Nigeria has remained trapped in a mono-resource economic structure (NEITI, 2022; OPEC, 2023). This pattern is consistent with the resource-curse thesis, which posits that heavy dependence on volatile commodity earnings undermines macroeconomic stability, institutional quality, and long-term development (Humphreys, 2021). Even in years of global oil price shocks the decline in revenue shares did not meaningfully reduce structural dependence, demonstrating what Acemoglu and Robinson (2012) describe as the resilience of extractive institutions that lack incentives for structural transformation. The relatively modest and inconsistent growth of the non-oil GDP from 1.84% to 2.65% between 2019 and 2022 further reflects weak diversification efforts, corroborating IMF (2023) assessments that Nigeria's reforms have not been sufficient to generate robust productivity in non-oil sectors.

Governance and accountability trends in Table 3 offer critical insights into the institutional dynamics underpinning resource management. Transparency International's Corruption Perceptions Index (CPI) scores between 2019 and 2023 reveal stagnation within a narrow band of 24–26 points, indicating persistently high perceptions of public-sector corruption (Transparency International, 2023). Such stagnation aligns with observations by Ehiorobo (2018) and Odeyemi and Oluwatobi (2022) that entrenched rent-seeking behaviour continues to impede reforms in Nigeria's extractive sector. At the same time, gradual improvements in NEITI's revenue reconciliation coverage, from 67.34% to 74.83%, suggest incremental progress in transparency mechanisms, supported by institutional reforms and stronger audit protocols (NEITI, 2023). However, the relatively slow increases in the implementation of Public Accounts Committee (PAC) recommendations, from 42.19% in 2019 to 48.77% in 2023, underscore a persistent accountability deficit, reflecting Pezaro and Olusanya's (2020) contention that institutional oversight mechanisms remain under-resourced and politically constrained. The inclusion of Host Communities Development Trust (HCDDT) compliance metrics starting in 2021, following the enactment of the Petroleum Industry Act (PIA), indicates early-stage efforts to improve equity in resource-benefit distribution (BudGIT, 2022).

The environmental and socio-economic indicators in Table 4 vividly illustrate the multidimensional consequences of weak regulatory enforcement and extractive governance. With an average of 619 oil spills annually between 2011 and 2021, the Niger Delta continues to suffer extensive ecological damage, corroborating findings from UNEP's (2022) environmental assessments that identify chronic pollution, inadequate remediation, and operational neglect by oil firms. Only 42.32% of gas-flaring penalties are collected, indicating institutional weaknesses in enforcement and reinforcing arguments by Ite and Ite (2020) that regulators lack the capacity and autonomy needed to impose full compliance. The slow progress of the Niger Delta cleanup, only 23.15% of total remediation completed, further demonstrates the inertia in environmental governance. These conditions have direct socioeconomic repercussions: with 63% of the population living in multidimensional poverty, limited access to clean water in host communities (38.43%), and youth unemployment at 53%, the data mirror NBS (2022; 2023) findings that resource-producing areas paradoxically suffer some of the worst development outcomes. This disconnect between resource wealth and human development reflects

Acemoglu and Robinson's (2012) institutional argument that extractive systems prioritize elite interests over broad-based welfare, and aligns with Okereke and Ladan's (2022) analysis of how inequitable resource distribution exacerbates regional underdevelopment.

Table 5 provides insight into the trajectory of economic diversification and sustainability. While sectors such as agriculture, manufacturing, and services recorded moderate increases in GDP contributions, ranging from 2.98% to 3.42% growth between 2020 and 2023, the expansion remains insufficient to meaningfully offset declining contributions from oil and gas (NBS, 2023). The ICT sector's growth from 14.13% to 17.35% of GDP represents one of the most significant diversification gains, consistent with global trends of digital sector expansion (World Bank, 2023). Meanwhile, renewable energy, though growing at 15.73%, still constitutes less than 1% of GDP, indicating early-stage development despite global climate imperatives (Rockström et al., 2023). These dynamics highlight the structural constraints identified by the IMF (2023), which emphasize that Nigeria's diversification progress remains hindered by inadequate infrastructure, inconsistent policy implementation, and an overreliance on hydrocarbon revenues to fund national budgets.

Table 2. Nigeria's Resource Dependence Indicators (2019–2023)

Year	Oil Revenue Share of Govt. Revenue (%)	Oil Export Share of Total Exports (%)	Non-oil GDP Growth Rate (%)
2019	83.145	92.318	2.145
2020	75.634	89.241	1.843
2021	78.912	90.573	2.317
2022	81.427	91.894	2.658
2023	79.263	88.726	2.193

Source: Compiled from NEITI Reports (2020–2023), CBN Statistical Bulletins.

Table 3. Governance and Accountability Metrics

Indicator	2019	2020	2021	2022	2023
Transparency International CPI Score	26.000	25.000	24.000	24.000	25.000
NEITI Revenue Reconciliation Coverage (%)	67.342	69.125	71.458	73.219	74.832
Public Accounts Committee Recommendations Implemented (%)	42.187	43.912	45.638	47.321	48.765
PIA Host Communities Fund Allocation Compliance (%)	-	-	68.342	71.498	73.241

Source: Transparency International (2019–2023), NEITI Audit Reports, National Assembly Records.

Table 4. Environmental Governance and Socio-Economic Indicators

Parameter	Value	Unit/Notes
Average Annual Oil Spills (2011–2021)	619.727	incidents per year
Gas Flaring Penalties Collected (%)	42.318	of total penalties levied
Niger Delta Cleanup Project Completion	23.145	% of total scope
Multidimensional Poverty Index (2022)	63.000	% of population
Host Communities with Clean Water Access	38.427	% of communities
Youth Unemployment Rate (2023)	53.000	% of youth population

Source: NOSDRA Reports (2022), NBS (2022–2023), UNEP Assessment (2022).

Table 5. Economic Diversification and Sustainability Metrics

Sector	Contribution to GDP (%) 2020	Contribution to GDP (%) 2023	Growth Rate 2020–2023 (%)
Agriculture	24.138	25.163	3.127
Manufacturing	11.834	12.417	2.984
Services	54.289	55.342	3.415
Oil & Gas	9.739	8.964	-2.145
ICT	14.126	17.348	8.432
Renewable Energy	0.245	0.342	15.732

Source: NBS National Accounts (2020–2023), World Bank Data.

5. POLICY DISCUSSION

Policy implications from the empirical patterns and theoretical lenses discussed above point to a suite of complementary, theory-informed reforms designed to re-shape incentives, strengthen institutions, and accelerate equitable, sustainable development. First, addressing the core institutional failures highlighted by political-economy and institutionalist theory requires credible commitment mechanisms to reduce extractive incentives and widen political inclusion. Policies should therefore prioritise the strengthening of formal institutions, such as judiciary independence, legislative oversight, and regulatory autonomy, to constrain elite capture and enforce property and contract rights (Acemoglu, Robinson, 2012).

Second, to break the resource-curse dynamics described by Karl and Humphreys, fiscal institutions must be redesigned to stabilise revenue flows and insulate recurrent spending from oil price volatility. A clearly legislated stabilization mechanism and a well-capitalised sovereign wealth fund that prioritises counter-cyclical stabilization and long-term human capital investments would reduce macroeconomic volatility and create fiscal space for diversification (Humphreys, 2021). These mechanisms should be accompanied by stricter budgetary rules and published reconciliation audits to reduce discretion in transfers, thereby shifting incentives away from short-term rent extraction toward project-based capital accumulation (IMF, 2023; World Bank, 2023).

Third, revenue distribution and host-community policies should be redesigned using equity and game-theoretic logic: more transparent, conditional, and participatory transfers to resource-bearing communities will realign local incentives away from conflict and patronage. Institutionalising community development trusts with clear, verifiable performance metrics, co-managed by elected local representatives and independent auditors, will increase the cost of diversion and create local demand for accountability (BudgIT, 2022; Okereke, Ladan, 2022).

Fourth, anti-corruption policy must combine deterrence with incentive realignment. Beyond prosecutions, reforms should make corruption less attractive by increasing detection probability, tightening loopholes, and introducing performance-linked pay and procurement scorecards for line ministries and state oil companies. Digitally enabled, real-time reporting of revenue streams and procurement contracts reduces information asymmetries and lowers transaction costs of monitoring, critical moves when rational actors weigh the expected benefits of corruption against detection and sanction risks (Wright, 2017). Complementary legal reforms to strengthen asset declaration regimes and

whistleblower protections will change elite calculus over time (Odeyemi, Oluwatobi, 2022).

Fifth, environmental governance and remediation must be elevated to a central fiscal and regulatory priority because ecological degradation imposes large negative externalities that constrain long-term growth and human development. Enforcing polluter-pays principles, tightening penalty collection, and accelerating the Niger Delta cleanup through time-bound public-private partnerships will internalise environmental costs and raise the marginal cost of environmentally destructive extraction (UNEP, 2022). Incorporating natural capital accounting into public budgets and conducting cost-benefit analyses that include ecological services will ensure projects reflect true social value and discourage short-term rent extraction that externalises environmental damage (Rockström et al., 2023).

Sixth, economic diversification requires coordinated, supply-side interventions that address market failures and build comparative advantage in high-growth, labor-absorbing sectors. Policy packages should combine targeted public investments in infrastructure (power, transport, digital backbone), industrial policy (strategic support to manufacturing and agro-processing), and regulatory certainty for ICT and renewable energy (World Bank, 2023). Subsidy reform should be calibrated with compensatory social measures to protect the poor, while revenue saved from reduced fuel subsidies is ring-fenced for infrastructure and human capital spending that raises the economy's non-oil productive capacity (Federal Government of Nigeria, 2023; IMF, 2023).

6. CONCLUSION

This study underscores the multifaceted challenges that continue to define Nigeria's resource governance landscape. Empirical evidence from Nigeria's hydrocarbon revenue dependence, governance and accountability metrics, environmental and socio-economic indicators (Table 4), and economic diversification trends highlight the persistence of extractive incentives and structural constraints that undermine sustainable development (World Bank, 2023). The analysis confirms that despite incremental improvements in transparency, revenue reconciliation, and host community fund compliance, Nigeria remains highly reliant on oil, with weak non-oil sector growth and limited institutional capacity to enforce accountability and equitable distribution (Pezaro, Olusanya, 2020). The findings resonate with institutionalist and political economy frameworks, which argue that extractive institutions and weak governance mechanisms perpetuate resource dependency, elite rent-seeking, and underdevelopment (Humphreys, 2021).

The policy implications derived from this analysis suggest that transformative institutional reforms, robust accountability mechanisms, and strategic economic diversification are critical to altering the trajectory of Nigeria's resource management. Strengthening regulatory agencies, enforcing environmental and fiscal compliance, and embedding participatory governance frameworks can reduce the political and economic incentives for rent extraction while promoting equitable socio-economic outcomes (Levi-Faur, 2012; Odeyemi, Oluwatobi, 2022; Ite, U., Ite, M., 2020). Furthermore, aligning national development plans with sustainable development goals and climate imperatives is essential to mitigate environmental externalities and ensure that resource wealth contributes to long-term human development (UNDP, 2023).

Future research should explore avenues to enhance understanding and guide evidence-based policy. First, there is a need for longitudinal, micro-level analyses of institutional reforms and anti-corruption interventions to identify causal pathways between governance

improvements and socio-economic outcomes (Pezaro, Olusanya, 2020). Second, investigations into the effectiveness of diversification strategies, particularly in ICT, renewable energy, and agro-processing sectors, can inform targeted industrial policies and investment planning (World Bank, 2023). Third, integrating environmental and social impact assessments with fiscal and macroeconomic modeling can provide a more holistic understanding of the trade-offs between resource exploitation, ecological sustainability, and inclusive development (Rockström et al., 2023).

The author has read and agreed to the published version of the manuscript.

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RESKILLING AND UPSKILLING: KEY STRATEGIES FOR ENGINEERING COMPETENCE DEVELOPMENT IN THE ERA OF INDUSTRY 4.0 AND 5.0

The purpose of this paper is to identify the key engineering competencies required in the context of the transformation brought by Industry 4.0 and 5.0 and to define the role of reskilling and upskilling strategies in the professional development of engineers. The methodology is based on a content analysis of national and international reports, directly addressing the formulated research questions. The findings indicate a significant shift in the profile of desirable skills – from traditional technical capabilities to digital, social, ethical, and leadership competencies. The main contribution of the paper lies in highlighting the synergy between technological transformation and the necessity for continuous competency development among engineers. Furthermore, the paper emphasizes reskilling and upskilling as strategic adaptation tools that support organizational innovation and flexibility. In practical terms, the results may assist employers and educational institutions in better designing development pathways for engineering professionals and in making informed decisions regarding investments in human capital.

Keywords: resilience, reskilling, upskilling, human capital, Industry 4.0 and 5.0.

1. INTRODUCTION

The modern economy is undergoing dynamic transformations driven by the development of new technologies and organizational concepts that form the foundation of Industry 4.0 and Industry 5.0. These processes require employees, particularly engineers, to possess not only advanced technical competencies but also adaptive capabilities to cope with changing market realities. Resilience, understood as the ability to flexibly adapt to

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difficult conditions, is becoming a key trait in the context of rapid technological development and the growing importance of a knowledge- and innovation-based economy.

The aim of this publication is to analyze the impact of industrial revolutions in the context of the demand for new engineering competencies and to discuss career development strategies such as reskilling and upskilling, which enable employees to adapt to contemporary labor market challenges. In line with this objective, the research problem was narrowed down to the following questions:

- What engineering competencies are essential in the era of Industry 4.0, Industry 5.0, and the economy of the future?
- What role do reskilling and upskilling play among development strategies for engineers in the age of technological transformation?

Answers to the research questions above were sought through an analysis of secondary data based on key findings from reports by international organizations such as the World Economic Forum and McKinsey Global Institute, as well as studies conducted among Polish enterprises. The analysis included reports covering data from the most recent years, which made it possible to ensure the timeliness of the findings in the context of dynamic technological changes and evolving labor market conditions. Particular emphasis was placed on studies prepared by recognized international organizations and research institutions, characterized by high methodological reliability and broad public accessibility. These criteria were intended to ensure the reliability, comparability, and transparency of the analyzed data.

2. RESILIENCE AS THE FOUNDATION OF EMPLOYEE ADAPTATION TO THE DYNAMIC TRANSFORMATIONS OF THE LABOR MARKET

In recent times, the term resilience, referring to the ability or process by which individuals adapt to changing conditions, has gained significant popularity. From a psychological perspective, “resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress – such as family and relationship problems, serious health issues, or workplace and financial stressors. It means ‘bouncing back’ from difficult experiences” (American Psychological Association, 2018).

According to the APA Dictionary of Psychology, resilience is defined as “the process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioral flexibility and adjustment to external and internal demands” (APA Dictionary of Psychology, 2018). Among the key factors influencing an individual’s capacity to cope with adversity, the same source highlights “the way individuals view and engage with the world, the availability and quality of social resources, and specific coping strategies” (APA Dictionary of Psychology, 2018).

The concept of resilience takes on particular importance in the context of organizational personnel amidst dynamic technological and market transformations. According to The Future of Jobs Report 2023, published by the World Economic Forum in May 2023 (World Economic Forum, 2023), over the next five years, employees – including engineers – will require additional training to develop attitudes and skills in areas such as cognition, management, technology, teamwork, self-efficacy, and work engagement. This is not surprising, as this need was already noted in an earlier edition of the report (The Future of Jobs Report 2020), which stated that by 2025, 50% of employees worldwide would require reskilling (World Economic Forum, 2020).

In line with this data, an optimistic outlook is offered by the report *Digital Career Evolution: Technology at Work Through the Eyes of Poles*, which reveals, among other findings, that 72% of respondents are aware that technological development will necessitate more frequent acquisition of new skills. At the same time, they expect support from employers in acquiring technological competencies (*Cyfrowa ewolucja kariery...*, 2024). Within Polish society, there is a visible readiness to enhance professional competencies, as evidenced by the fact that 62% of respondents would be willing to apply for a job if the employer offered access to online training and courses (*Cyfrowa ewolucja kariery...*, 2024).

In response to these trends, companies are implementing various training strategies, primarily focused on developing analytical and creative thinking skills. Areas of focus also include the use of artificial intelligence, working with large datasets, leadership development, social influence, resilience, flexibility, curiosity, and lifelong learning.

3. ENGINEERING COMPETENCIES IN INDUSTRY 4.0 AND 5.0

Current labor market trends are compelling employers to develop career paths for engineers that align with the emerging needs of Industry 4.0 and Industry 5.0. The former represents a comprehensive term for technological innovations and organizational concepts in the value chain that are revolutionizing industrial production (*Engineers of Industry 4.0: (Un)ready for Change?*, 2017). Industry 5.0, as outlined in the 2021 report by the European Commission titled *Industry 5.0: Towards a sustainable, human-centric and resilient European industry*, complements the Industry 4.0 paradigm by emphasizing the importance of research and innovation as key drivers for a transition towards a sustainable, human-centered, and resilient European industry. Industry 5.0 seeks to capture the value of emerging technologies while ensuring prosperity that goes beyond job creation and economic growth, respecting planetary boundaries and placing worker well-being at the heart of the production process (Breque, De Nul, and Petridis, 2021).

Modern production methods have transformed the demand for engineering qualifications, leading to the emergence of new specializations such as: robot operation coordinator, simulation engineer/expert, service engineer utilizing digital technologies, systems design, IT and data processing specialist, sales engineer in machinery manufacturing companies, and specialist in modeling and interpreting production data (*Engineers of Industry 4.0: (Un)ready for Change?*, 2017).

The key transformations brought about by successive industrial revolutions are illustrated in Figure 1.

The foundation of the fourth industrial revolution, commonly referred to as Industry 4.0, lies in digital technologies, as presented in Table 1.

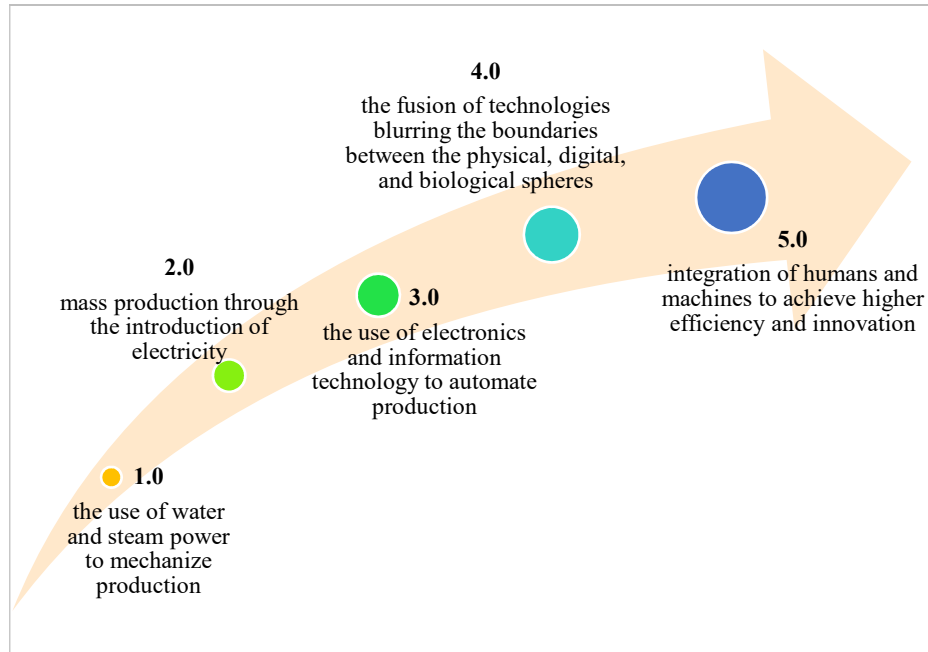


Figure 1. Industrial revolutions – evolution

Source: own study based on (*Czwarta rewolucja przemysłowa...*, 2020; Kolny, Kaczmar-Kolny, Dulina, 2023).

Table 1. Digital Technologies within the Industry 4.0 Paradigm

Digital Technologies	Characteristics	Applications/Possibilities
Internet of Things (IoT)	Collecting data from various sources used to optimize manufacturing processes and monitor the status of devices and machines	<ul style="list-style-type: none"> • Connecting any devices to the internet • Remote access to devices and management of them
Big Data	Analysis and processing of large datasets from various sources	<ul style="list-style-type: none"> • Analyzing and processing large datasets from various sources to identify trends, patterns, and detect anomalies • Improving product quality by identifying and removing defects and issues in real-time
Artificial Intelligence (AI)	Machine learning and deep learning focused on analyzing and processing large amounts of data, identifying trends and patterns, and forecasting future outcomes	<ul style="list-style-type: none"> • Enhancing decision-making processes, automating tasks • Improving quality and efficiency of production

Table 1 (cont.). Digital Technologies within the Industry 4.0 Paradigm

Digital Technologies	Characteristics	Applications/Possibilities
Robotic Process Automation (RPA)	Automation of repetitive and time-consuming tasks using software and robots	<ul style="list-style-type: none"> • Minimizing human errors and reducing manual work • Increasing process efficiency and reducing time of completion
Cloud Computing	Storing and processing data on remote servers, ensuring flexibility and scalability according to needs	<ul style="list-style-type: none"> • Enabling access to data and applications from different locations and devices
Virtual Reality (VR) and Augmented Reality (AR)	<p>VR – Creating three-dimensional images of objects, spaces, events, imitating real and fictional objects using IT technology;</p> <p>AR – Simultaneously combining the virtual world with the real world by overlaying virtual objects onto observed real-world items in real-time</p>	<ul style="list-style-type: none"> • Employee training • Designing and simulating production processes • Measuring and diagnosing devices
Additive Manufacturing (AM)	3D printing	<ul style="list-style-type: none"> • Faster and more flexible production of parts and tools • Production of non-standard, customized, and high-quality products more efficiently than traditional manufacturing methods

Source: own study based on (Kaczmar-Kolny, Pośpiech, 2023; Gajdzik, Grabowska, 2018; (Różanowski, 2007; Czyż, Gnat, Kolny, Plinta, 2021; Stokłosa, Kolny, Ziobro, Więcek, 2021.

The presented technologies play a key role in the context of the Fourth Industrial Revolution. Equally important are the skills that enable individuals to benefit from the advantages outlined in the table. People with technical education play a significant role in technological transformations. It is worth noting that, contrary to common belief, graduates of general secondary schools now make up over 90% of the students at technical universities (Raport “Młodzi inżynierowie”, 2022), this can cause difficulties for them in assimilating technical knowledge, compared to graduates of technical schools who are already familiar with these aspects. On the other hand, there are voices suggesting that “the economy, especially the innovative economy, requires engineers who, in addition to specialized knowledge and skills, possess a general education that enables them to solve engineering problems set within a complex reality” (Kraśniewski, 2017). It is important to note the high dynamism of the changes occurring in the economy, which in the future will increasingly rely on technological innovations, sustainable development, and the integration of artificial intelligence. This will require engineers not only to have advanced technical knowledge but also the adaptive capabilities to face rapidly changing challenges. Engineers will become key leaders in designing solutions that will shape transformations

in industries such as renewable energy, biotechnology, robotics, and digital technologies. The areas of the future economy are illustrated in Figure 2.

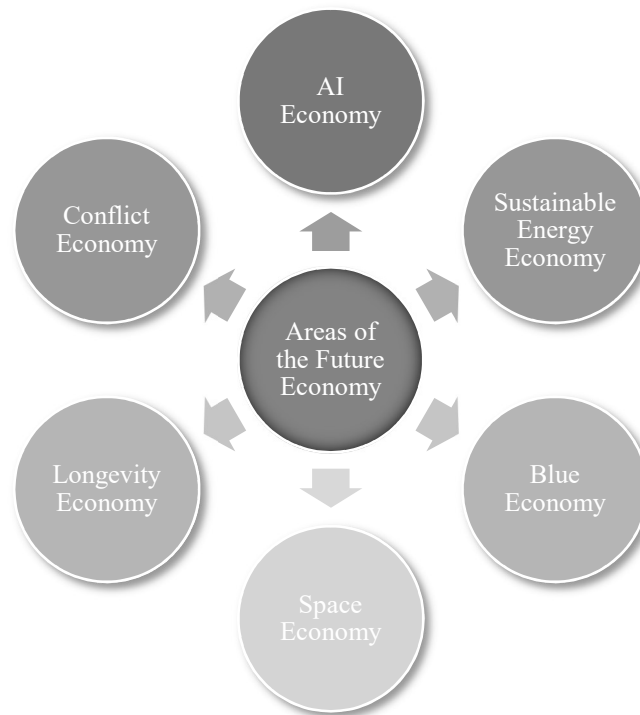


Figure 2. Areas of the Future Economy

Source: own study based on (*Kompetencje inżyniera przyszłości*, 2024).

The work of engineers in the aforementioned areas is primarily related to (*Kompetencje inżyniera przyszłości*, 2024): coordinating and implementing technological changes, developing artificial intelligence (AI economy); creating more energy-efficient production models (sustainable energy economy); protecting aquatic ecosystems, automating marine logistics operations (blue economy); exploring outer space, developing space technologies (space economy); utilizing gerontechnology, genetic engineering, developing upskilling and reskilling models (longevity economy); taking actions to ensure cybersecurity, developing humanitarian technologies (conflict economy).

To meet the challenges of the future economy, engineers, depending on their responsibilities, should possess the competencies presented in Table 2.

In addition to the various competencies of an engineer presented in Table 3, one can also highlight the ability to communicate effectively with diverse individuals (Kraśniewski, 2017), the ability to be flexible and adapt to multiple functions and work environments, the ability to continuously learn and assimilate elements from different disciplines, and the ability to work in teams (with other engineers, managers, and individuals outside one's profession) (*Inżynierowie Przemysłu 4.0 (Nie)gotowi do zmian?*, 2017). A modern engineer should also be open-minded and capable of collaborating in a multicultural work environment.

Table 2. Competencies of the Engineer of the Future

Areas of Competence	Competencies
Digital competencies	<ul style="list-style-type: none"> • surface data insights • digital literacy • digital collaboration • computational thinking • developing machine learning models • using open-source database systems • big data intelligence • data collection and analysis
Social and humanistic competencies	<ul style="list-style-type: none"> • inspiring trust • generating actionable insights • cross-cultural empathy • interspecific problem solving • fostering inclusiveness
Management and ethics-related competencies	<ul style="list-style-type: none"> • psychosocial safety • AI ethics • proactive cybersecurity management • new economics development • global engineering ethics • global health perspective management • talent management • climate dimensions literacy • uncertainty management • cognitive load management
Project and creative competencies	<ul style="list-style-type: none"> • novel and adaptive thinking • design mindset • system thinking
Business competencies	<ul style="list-style-type: none"> • project management • production management • quality management
Leadership competencies	<ul style="list-style-type: none"> • Change management • Team management • Project team management • Time management

Source: own study based on (*Kompetencje inżyniera przyszłości*, 2024; Hadwiczak, 2021).

4. RESKILLING AND UPSKILLING – STRATEGIES FOR ENGINEER DEVELOPMENT IN THE ERA OF TECHNOLOGICAL TRANSFORMATION

The work of an engineer often requires not only a traditional approach, but also creative thinking, multitasking, and the ability to manage change and implement innovation. Hence, it is increasingly said that today's "engineer becomes an innovation engineer" (Banaszak, 2019).

Currently, various programs are being implemented to help both employees and employers adapt to the evolving realities of the engineering labor market. In addition to the widely used term "skilling," other concepts related to acquiring knowledge and skills

within organizations have gained popularity in recent years. One such concept is *reskilling*, most commonly understood as retraining (Szwedor, 2023) or transitioning from other sectors (Królikowska, 2023). On the other hand, *upskilling* refers to upgrading one's current qualifications (Szwedor, 2023), requalifying (Jankowski, Kaczurba, Makowska, Stępniewska, 2023), or developing and shifting career paths-especially for those with limited work experience or seeking a career change.

The key difference between these two processes lies in their focus:

- Reskilling is oriented toward complete retraining for a new role when an employee needs specialized knowledge and skills required for different responsibilities.
- Upskilling, in contrast, focuses on enhancing competencies within a current career path to perform existing tasks more efficiently.

These tools are a direct response to today's managerial challenges, which include adapting to a rapidly evolving job market, attracting and retaining talent, and fostering a culture of continuous development.

Table 3 presents a comparison of skills requiring reskilling and upskilling over the past decade.

Table 3. Comparison of Skills Requiring Reskilling and Upskilling from 2015 to 2025

2015	2020	2015	2020	2025	15/20/25
Complex problem solving	Complex problem solving	1	1	Analytical thinking and innovation	-/-/1
Coordinating with others	Critical thinking	4	2	Active learning and learning strategies	-/-/2
People management	Creativity	10	3	Complex problem-solving	1/1/3
Critical thinking	People management	3	4	Critical thinking and analysis	4/2/4
Negotiation	Coordinating with others	2	5	Creativity, originality, and initiative	10/3/5
Quality control	Emotional intelligence	6	6	Leadership and social influence	-/-/6
Service orientation	Judgement and decision making	8	7	Technology use, monitoring, and control	-/-/7
Judgement and decision making	Service orientation	7	8	Technology design and programming	-/-/8
Active listening	Negotiation	5	9	Resilience, stress tolerance, and flexibility	-/-/9
Creativity	Cognitive flexibility	10	10	Reasoning, problem-solving	-/-/10

Source: (Li, 2024; Gray, 2016; Whiting, 2020).

The table clearly illustrates that over the past decade, significant changes have occurred among the top 10 most important skills. While in 2015 and 2020, desirable skills included coordinating with others, people management, active listening, negotiation, and service orientation, by 2025 these are expected to be replaced by others, such as analytical thinking

and innovation, active learning and learning strategies, leadership and social influence, technology use, monitoring, and control, and technology design and programming.

When analyzing the needs related to reskilling and upskilling, it is important to consider the data presented in the report by the McKinsey Global Institute titled *The Future of Work in Europe: Automation, Workforce Transitions, and the Shifting Geography of Employment* (McKinsey Global Institute, 2020). This report focuses on long-term trends affecting employment across local and regional labor markets in Europe at a time when automation is accelerating. According to estimates, around 375 million workers globally may require reskilling by 2030, including engineers working in the manufacturing and technology sectors.

The report, referencing earlier analyses from *Skill Shift: Automation and the Future of the Workforce* (McKinsey Global Institute, 2018), forecasts a rising demand for social, emotional, and technological skills across all industries in Europe. Meanwhile, *The Future of Jobs Report 2023* (World Economic Forum, 2023) indicates that 60% of workers, including engineers, will require either reskilling or upskilling by 2027.

5. REFERENCE TO THE RESEARCH PROBLEM

The analysis of data drawn from reputable industry and institutional reports constitutes a vital component of the research process, enabling a substantive reference to the stated research questions. These reports provide structured, up-to-date, and often time-comparable information that supports the understanding of complex socio-economic and technological phenomena. In this study, the data have been subjected to critical analysis in terms of their relevance and consistency with the thematic scope. The aim of this analysis is not only to present the current state of affairs but, above all, to identify key trends and challenges that can be examined in relation to the research questions.

With regard to the first question – concerning the key engineering competencies in the era of Industry 4.0 and 5.0 and the future economy – it should be noted that in the context of digital transformation and the transition from Industry 4.0 to a more human-centered and sustainable Industry 5.0, the set of essential engineering competencies has significantly expanded. In addition to traditional technical skills, increasing importance is being placed on digital, social, ethical, and leadership competencies.

In the domain of digital competencies, particular emphasis is placed on data analysis and interpretation, proficiency in working with large datasets (big data), knowledge of open-source systems, machine learning modeling, as well as digital collaboration and computational thinking. Engineers must be prepared to operate in environments dominated by data and algorithms, not only utilizing them but also understanding their impact on both design decisions and broader societal contexts. Socio-humanistic competencies – such as intercultural empathy, trust-building, support for inclusivity, and the generation of actionable insights – are becoming essential in interdisciplinary and multicultural teams. In Industry 5.0, which emphasizes the synergy between humans and technology, these competencies enable the development of more sustainable and socially responsible solutions.

In the area of management and ethics, mastery of issues related to artificial intelligence ethics, cybersecurity management, health and climate perspectives, as well as managing uncertainty and cognitive load, is critical. The ability to apply global engineering ethics and to design solutions rooted in social responsibility is foundational for engineering activity in the future economy. Complementing this are design and creative competencies

– such as systems thinking, design thinking, and adaptive thinking – which allow for the development of innovative and integrated solutions in a dynamic environment. Equally important are business competencies (e.g., business analysis, production and quality management) and leadership competencies, including change management, team leadership, and time management.

In relation to the second research issue, which pertains to the role of reskilling and upskilling as strategies for the development of engineers in the era of technological transformation, data presented in this publication – from both international reports and research conducted in Poland – clearly indicate that reskilling and upskilling are essential strategies. When combined with the adoption of cognitive technologies and automation, these strategies can contribute to reducing production costs while enabling rapid organizational growth (Deloitte, 2017, *The Fourth Revolution is now: are you ready? Future of Operations*). Both strategies form the foundation of engineering workforce development and represent a critical element in building a resilient, innovative, and flexible future economy.

Upskilling, which involves deepening and updating existing competencies, enables engineers to effectively leverage modern tools and technologies, thereby enhancing their competitiveness in the labor market. Reskilling, on the other hand – understood as acquiring entirely new qualifications – facilitates career shifts in response to evolving industry needs and changing demands for specific specializations.

6. CONCLUSIONS

Dynamic transformations associated with Industry 4.0 and 5.0 require engineers to adopt a new approach to professional development. Resilience, understood as the process of adapting to changing conditions, plays a key role in shaping the attitudes and skills necessary in the future economy. An analysis of available reports indicates that reskilling and upskilling are not only responses to labor market challenges, but also tools that support the development of technological innovation and sustainable growth.

In the context of ongoing technological change, a critical task for employers is to support employees in acquiring new competencies. For engineers, this involves not only the enhancement of technical skills but also the development of social, analytical, and leadership competencies that will enable them to become leaders in designing and implementing innovative solutions. In light of the challenges posed by the new economic era, investment in the development of engineering talent is not merely a necessity but also an opportunity to build competitive advantage.

It is worth noting, however, that only a few years ago, employers held divergent views regarding these strategies. According to the World Economic Forum's *Future of Jobs Report 2018*, nearly one-quarter of companies were undecided or reluctant to engage in reskilling their workforce, while two-thirds expected employees to adapt and acquire new skills on their own while transitioning between jobs. More than half of employers planned to address skills gaps by hiring new staff or turning to external contractors, temporary workers, or freelancers (World Economic Forum, 2018).

Such skepticism regarding the implementation of reskilling and upskilling strategies is surprising when juxtaposed with more recent studies showing that investing in the development of existing employees' competencies is significantly more cost-effective than the recruitment and training of new personnel (Chakma, Chaijinda, 2020).

In conclusion, the future competency profile of engineers requires the integration of digital, interpersonal, ethical, and managerial skills. It is this synergy that will enable engineers to effectively meet the challenges of Industry 4.0 and 5.0 and actively contribute to shaping an innovative and responsible future economy. Reskilling and upskilling strategies, therefore, represent key tools for the competency development of engineers in the era of technological transformation, allowing them to effectively adapt to evolving market demands and accelerate organizational innovation.

All authors have read and agreed to the published version of the manuscript.

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DEVELOPMENTAL CAPACITY OF VOIVODESHIP- -LEVEL LOCAL GOVERNMENTS UNDER UNSTABLE CONDITIONS

In Poland the regional government management is affected by the instability of the economic and legal environment. Therefore, the aim of the article is to assess the development opportunities of local government units in Poland compared to changes in the overall economic situation. We used a comparative analysis of selected measures of local government units' financial condition characterizing their ability to implement development activities. The TOPSIS multi-criteria analysis method was used in the assessment of the financial determinants of development of local government voivodeships on a regional basis. The assessment covered the years 2019-2023. The research showed that voivodeship local governments were mostly characterised by high and moderate development potential. By 2022, there is noticeable reduction in investment activity and under utilisation of full development capacity. From 2023 onwards, one may notice an upturn in the investment activity of voivodeship local governments.

Keywords: financial situation, developmental opportunities, local governments.

1. INTRODUCTION

Local government entities, as entities responsible for providing local and regional public services as well as for undertaking development activities, must be equipped with adequate financial resources. Local government is responsible not only for the implementation of current statutory tasks, but also for the development of local communities. A fundamental problem for local governments, as far as the development

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possibilities are considered, is to find resources for funding investment tasks. Local government investments are an important determinant of development for both regions and society as a whole (Kogut-Jaworska, Zawora 2020; Wyszowska 2018).

During the years 2019-2023, there were a number of unpredictable events that affected the socio-economic situation both globally and in Poland. The instability of the economic and legal landscape was reflected in the financial condition of the state budget and consequently also affected the area of local government finances.

The research aimed to assess the development potential of local government entities in Poland in the light of fluctuations in the economic situation. In order to achieve the objective, the state of local government finances was assessed compared to changes in Poland's GDP. A multi-criteria indicator analysis was used to assess the financial condition of the local government. It enables the examination of selected areas of this broad issue. The research in this study primarily focuses on a specific aspect of developmental capacity: the sound finances of local governments. We applied comparative analysis of measures of financial condition, characterizing the ability of local government to implement development projects, in particular, the financial and investment potential, the level of self-financing and the degree of indebtedness. The assessment used a regional breakdown of local government entities by voivodeship, relevant to the persistent disparities in the level of individual regions' economic development. In the development of the regions, a special role is played by the financial situation of the voivodships' local governments, whose investment activities can reduce the existing developmental disparities.

The TOPSIS multiple-criteria analysis method was used to assess the financial determinants of voivodship local governments' development on a regional basis. In order to calculate the synthetic indicator for individual voivodship local governments, three groups of factors monitored by the Ministry of Finance were assessed, including 9 budget indicators, 5 per capita indicators and 3 debt indicators.

The chosen study period (years 2019–2023) covers the transition from a stable macroeconomic situation and good economic conditions in Poland, through a pandemic-induced crisis, to a period of a recovering economic environment. The empirical material comes from the GUS Local Data Bank, Ministry of Finance studies, reports of the National Council of RIOs and the Supreme Audit Office (NIK).

2. LITERATURE REVIEW

Financial resources constitute the basis for the functioning of local government. They determine the implementation of tasks, including those of an investment nature (Grzebyk, Stec, Hejdukova, 2022). Financial condition, as a measure depicting the financial condition of local government, is a complex and multidimensional concept. We select multiple attributes of an entity's finances in order to assess its level of financial condition (Hendrick, 2004; Bieniasz, Gołaś, 2015). The financial condition of local government is shaped, among other things, by: revenue, financial self-reliance, amount of investment expenditures, capacity for obtaining debt, attainment of balanced budgets. Financial health is also expressed in terms of solvency, as defined as the financial capacity of a local government to meet its obligations (short-term and long-term) on time and to ensure continuity in providing public service (Ritonga, Clark, Wickremasinghe, 2019). Thus, among the definitions of financial condition of local government, the most frequently emphasized are the capabilities of the local government related to ensuring financial

security, understood as the ability to perform its own tasks and maintain financial credibility (Stanny, Strzelczyk, 2018).

Financial analysis is an important tool for assessing the financial situation of local governments. Its scope includes the study of financial phenomena and the conditions and consequences of their occurrence. The analysis of an entity's financial condition provides information about its current and future asset and financial situation. It makes it possible to determine the local government's developmental opportunities (Zawora, 2018). The obtained information also provides a basis for comparing the financial position of individual entities (Filipiak, 2009). The analysis carried out for selected groups of local government entities reveals trends occurring on a national, regional, and local scale. One of the primary methods of assessing the financial health of a local government is indicator analysis, which enables the assessment of the day-to-day operations of local governments and supports the local development planning process and investment activity (Turek-Radwan, 2022; Kata et al., 2022). The sets of indicators used in the analysis of the financial situation of local government most often concern the assessment of the following: liquidity understood as the ability to meet obligations; the level of debt and the ability to service it; financial self-reliance (revenue and expenditure); the entities' developmental capacity, understood as the ability to finance investment outlays; the attractiveness of the local government, showing its wealth and developmental capacity per entities' residents (Łukomska-Szarek, Zawora, Kawecki, 2018). On the other hand, the indicator matrix recommended by the Ministry of Finance includes the following groups of measures: budget per capita as well as liabilities by debt titles (Ministry of Finance, 2023).

3. METHODOLOGY

The main objective of this research is a multi-criteria analysis of the financial and development potential of 16 voivodship local governments in Poland (the research sample $n=16$ constitutes 100% of the population of the surveyed local government entities). The discussion of the implementation of the research objective was undertaken on the basis of data tracked by the Ministry of Finance. In particular, three groups of indicators were assessed: budget indicators (9), per capita indicators (5) and debt indicators (3). Their selection was determined by the calculated coefficient of variation. From the examined group of indicators, we identified stimulants (10) and destimulants (7). Based on the selected groups of indicators, an attempt was made to perform a multi-criteria indicator analysis in a dynamic approach; hence, a period covering the years 2019-2023 was adopted for the study. The study was carried out using the TOPSIS linear ordering measure, which allows a ranking to be determined based on a synthetic measure (Kozera et al., 2017). In order to carry out a benchmarking assessment, it is necessary to construct a decision matrix and then normalize it and assign weights to the individual objects. In the next step, a weighted and normalized matrix is created from the assigned weights. Based on this matrix, an ideal and an anti-ideal solution are identified (the value will be maximum for all indicators that are stimulants and minimum for destimulants and vice versa for anti-ideal solutions). Then, for each indicator value, the Euclidean distance from both of these solutions is calculated. On its basis in the next step, we constructed the synthetic indicator P_i . Later, it is used to create a ranking (Roszkowska et al., 2024). Based on the TOPSIS linear ordering measure, a synthetic index P_i was generated for the 16 voivodship local governments and their ranking was prepared. In addition, 4 classes of ranking were

calculated for the surveyed entities in terms of the financial determinants of their development.

4. RESULTS

4.1. Local government finances in a changing economic environment

The situation of public finances is dependent on macroeconomic conditions and the general state of the economy. Public revenues, including those of local government, are based in large part on tax revenues, which, in periods of economic downturn, result in fluctuations in state and local government budget revenues. Poland's economy and public finances in the years 2019-2023 were affected by adverse external and internal conditions. In 2020, Poland, after years of stable economic growth, experienced a downturn due to the COVID-19 epidemic. The many restrictions associated with the epidemic had serious economic and social impacts, resulting in a 2.0% drop in GDP compared to a year earlier, when the economic growth rate was 4.5% (Table 1).

Table 1. Changes in GDP as well as government revenue and expenditure between 2019 and 2023 (%)

Years	2019	2020	2021	2022	2023
Previous year = 100					
Gross Domestic Product	104.5	98.0	106.8	105.3	100.1
Public income	107.4	102.7	114.9	111.1	115.0
Public expenditures	108.7	117.7	102.8	115.5	118.9
National debt	100.7	112.1	103.3	105.3	109.8
GDP = 100					
Public income	41.0	41.3	42.3	40.2	41.6
Public expenditures	41.8	48.2	44.2	43.5	46.7
Result	-0.7	-6.9	-1.9	-3.4	-5.1
National debt	43.2	47.5	43.8	39.3	38.9

Source: Own study based on (Supreme Audit Office - NIK; Central Statistical Office – GUS; Ministry of Finance).

In 2021, Poland, like most countries in the European Union, experienced economic growth driven by a strong economic recovery. Although temporary restrictions were still in place to counteract the negative effects of the epidemic, they were of a much milder nature than the year before. As a result, GDP grew by 6.9%, which was one of the most dynamic increases since 2007 (when it exceeded 7%). Thus, Poland maintained a growth rate in 2021 above the EU average rate of 6.1%. (NIK, 2022). The high GDP growth in this period was also associated with a low baseline indicator (2020). The slowdown in GDP growth in 2022 was largely due to the unstable international situation and the deterioration of the developmental conditions of the Polish economy. It resulted in a slowdown in investments - both domestic and foreign (NIK 2023). Poland's economic growth rate in 2023 was 0.1% of GDP, significantly lower than in 2022.

From 2021 onwards, a gradual rise in inflation was observed in Poland. The average annual increase in consumer prices was 5.1% (with an average increase of 3.4% the year before). In 2022, despite the NBP tightening its monetary policy, there was a further

increase in average annual inflation to 14.4% (the highest since 1997 and higher than the average in EU countries) (NIK 2023). The deterioration of external economic conditions in 2022 was largely brought about by Russia's aggression against Ukraine. Global energy resource prices jumped, triggering price increases for other goods and services as well. Rising inflation contributed to lower consumption dynamics, also weakened by real wage growth being too low to keep pace with inflation. In 2023, the average annual consumer price index stood at 11.4%, which was lower than in 2022 (NIK 2024).

Although the growth in government revenue has been maintained between 2019 and 2023, it should be noted that a much lower growth rate has been registered in 2020 (Table 1). In 2021, the increase in government revenue over the previous year was the highest in the examined period (14,9%). Public expenditures had been increasing in 2020 and 2023. In 2020, they surged to 48.2% of GDP, driven in part by the need to counter the negative effects of the epidemic and to support the economy during the recession.

Over the years 2019-2023, both the state and local government sectors had developed a deficit, which peaked in 2020, when it stood at 6.9% of GDP. After a significant reduction in the deficit to 1.9 per cent of GDP in 2021, further increases can be observed in the following years, due to high growth in public expenditure without adequate public revenue growth. The national public debt recorded its highest increase in 2020 (by 12.1% compared to the previous year). Another high increase (of 9.8%) is seen in 2023. The dynamic of public debt growth was almost doubled compared to 2022.

A number of internal and external factors affect the financial situation of local governments. External factors beyond the control of local government have a particularly significant impact on the functioning of local government. In the years 2019-2023, the economy of local government has been affected by the instability of the economic and legal environment, affecting its financial fitness and the implementation of public tasks. We should mention the following significant factors among those causing unfavourable changes in the environment of Polish local government (Dolewka 2023; Swianiewicz, Lukomska 2021):

- the unstable international situation – the war in Ukraine and the new tasks imposed on local government concerning aid for war refugees;
- high inflation – increasing the cost of local government tasks;
- economic fluctuations – related to adverse external conditions, including the recession related to the COVID-19 pandemic;
- unfavourable demographic trends – depopulation and ageing of the population;
- instability of legal regulations – related to revenues and tasks of local governments, including changes in the PIT and CIT tax system.

Extraordinary external factors affecting the local government's finances include the war in Ukraine, which began in 2022. Due to the armed conflict on the territory of Ukraine and the refugee crisis of the citizens of this country, local governments have been tasked with assisting Ukrainian citizens arriving in Poland. The 2022 Act created the Assistance Fund to provide local governments with revenue to enable them to carry out the new public tasks imposed on them (Act 2022). Further problems arising from the outbreak of war in Ukraine were the war-related effects of difficulties in accessing coal sources, the energy crisis and the problems of rising costs due to high inflation. These have resulted in the need for local government entities to carry out additional tasks and thus increased financial costs.

Unfavourable economic developments (including above all the recession caused by the COVID-19 epidemic, and the slowdown of the Polish economy in the following years)

have had an impact on reducing the local governments' own revenue potential, particularly income from taxes. In addition to economic conditions, the state of local government finances has also been significantly affected by changes in tax law, which were introduced from 2019 onwards. The reduction in local government's own revenues was particularly influenced by changes in personal income tax legislation (e.g. reduction of the PIT rate in the tax scale threshold, doubling of deductible costs for employees), as well as regulations related to the implementation of the Polish Deal, which came into force in 2022 (introducing numerous PIT reliefs) (Acts 2019, 2021). The Association of Polish Cities (ZMP) points out that the changes to the personal income tax system introduced in the years 2019-2022 resulted in a significant decrease in the own income of local government entities, in particular cities with poviats-level local government rights and urban municipalities (where personal income taxes are the main component of revenue) (*Bilans...*, 2024). According to the Supreme Audit Office, recently carried out tax reforms have limited the financial independence of local governments and their ability to undertake investment tasks (NIK, 2024).

Table 2. Indicators of the financial situation of local governments in Poland in the years 2019–2023

Years	2019	2020	2021	2022	2023
Gross operating result in relation to revenue (%)	8.7	7.0	11.0	7.8	4.8
Net operating result in relation to revenue (%)	5.1	3.9	8.0	4.9	2.3
Budget outturn (PLN million)	-1 706.2	5 689.5	17 441.8	-8 179.8	-22 939.9
Repayment of repayable debt (PLN million)	10 056.7	9 591.4	9 807.4	9 706.6	8 992.9
Debt incurred (PLN million)	14 476.8	17 104.0	11 052.	9 576.4	21 302.5
Total liabilities (PLN million)	82 075.7	89 845.1	91 122.8	90 825.6	102 723.7

Source: Own study based on (Krajowa Rada RIO).

In 2019, local government budget expenditures exceeded revenues, which translated into closing the year with a deficit (Table 2). In the years 2020–2021, the budgets of local governments generated a surplus, which shows that local governments were very cautious when implementing the budget during pandemic. It was also associated with a significant reduction in local government investment activity, linked to the deteriorating economic situation in Poland and growing uncertainty about the local government's ability to meet its revenue plan. In the years 2022–2023, local governments developed a budget deficit, particularly high in 2023, when expenditures exceeded revenues by PLN 22.9 billion, as a result of the weakening of the revenue aspect of local governments, with a strong increase in expenditures, particularly property expenditures. In 2023, 81% of local governments showed a budget deficit. Among the local government types, only the provinces generated a budget surplus (*Finances...*, 2024).

In the years 2019–2021, the amount of local government indebtedness increased steadily. At the same time, the ratio of liabilities to income stabilised. The debt-to-income

ratio of the entire local government sector decreased from 29.5% in 2019 to a level of 26.3% in 2022. Local government liabilities at the end of 2023 amounted to PLN 102.7 billion and increased relative to 2022, largely as a result of higher local government borrowing needs related to financing investments and covering deficits (in 2023, local government investments increased by as much as 45.4%). The highest level of debt has been noted in the cities with powiat-level local government rights, and the lowest in the voivodeships, and only the latter ones have seen a decrease in liabilities relative to the year 2022.

The results concerning the operating surplus generated by local governments are worrying. The gross operating result, i.e., the difference between current income and current expenditure, determines the financial situation of local governments by showing their ability to finance investments. Its high level is also a safeguard against the loss of financial liquidity. Therefore, it makes it possible to predict the feasibility of funding investments and the repayment of liabilities previously used for this purpose (Satoła, 2015). Achieving a gross operating surplus is essential in local government financial management. However, this does not consider expenditures for the repayment of borrowings (debits). Therefore, in assessing the financial position of local governments, the net operational surplus ratio, which more fully reflects their investment opportunities, should also be taken into account (Swianiewicz, Łukomska, 2021). When determining it, the gross operating surplus is reduced by the amount of the local government's debt repayment. The use of net operating surplus is justified due to the persistently high indebtedness of local governments. The significant differences in the values of gross and net surplus indicate the high debt repayment burden on local government budgets (Table 2).

The value of the operational surplus indicator showed sensitivity to changes in economic conditions (Table 3). During periods of worsening economic conditions, a decrease in the indicator is evident (year 2020 and years 2022 and 2023). The lowest local government surplus was generated in 2023 (its decrease in comparison with 2022 was 36%), which indicates a deterioration in the financial situation of local governments. Cities with county (powiat-level local government) rights remained in the most difficult situation among different types of local governments, at the same time showing the highest vulnerability to changes in the economic situation. In 2023, these entities generated the lowest gross operating surplus. In relation to revenues, it reached a very low value - 0.9% (with the average in previous years close to 7%). When considering the net presentation of the indicator, cities with county (powiat-level local government) rights developed an operational deficit. Voivodeship local governments, which were characterised by the highest level of operating surplus, remained in the best financial situation. Moreover, only in this group of local governments, the level of operational surplus increase in the studied period, which indicates stability of their income situation.

The ability of local governments to implement investments is adversely affected by running up a current deficit. The investment needs of local governments are high, and meeting them is dependent on the availability of external sources of funding, such as the EU financial perspective for the years 2021–2027, the National Reconstruction Plan or national support programmes. Local governments that have not managed to balance their operating budgets may find it difficult to raise contributions to fund investment projects.

Local government investments are an important determinant of regional development due to their role of local government in supporting and creating the socio-economic development of a given area.

Table 3. Operating result (gross and net) in relation to the revenue, by the levels of local government (%)

Years	Municipalities		Cities on the poviats-level local government rights		Poviat-level local government		Voivodeship local government	
	Operational result in relation to total income							
	gross	net	Gross	net	gross	net	gross	Net
2019	8.4	4.9	6.8	3.2	9.0	5.7	19.6	14.6
2020	7.5	4.4	3.3	0.1	7.8	5.4	20.1	16.0
2021	10.1	7.3	9.6	6.5	10.3	8.0	25.4	21.1
2022	7.8	5.2	3.8	0.4	6.7	4.3	22.7	19.9
2023	4.4	1.8	0.9	-2.2	3.1	1.4	23.8	21.1

Source: Own study based on (Krajowa Rada RIO).

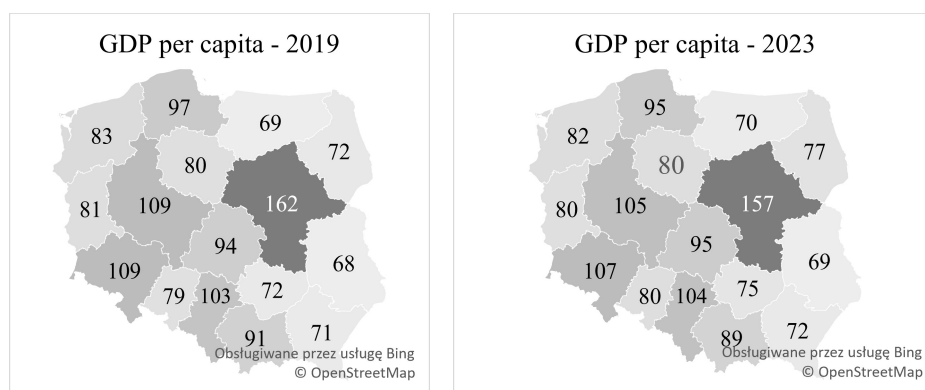


Figure 1. GDP per capita by region in the years 2019 and 2023 (Poland = 100%)

Source: Own study based on (Central Statistical Office).

Disparities in the level of economic development of individual regions persist in Poland. The value of GDP per capita varied between the respective voivodeships. This indicates significant variations between the richest and poorest regions. It may be noted that the eastern part of Poland is characterised by a lower level of GDP per capita. The lowest value of the indicator was reached by the Lubelskie voivodeship, where GDP per capita amounted to 69% of the national average in the studied period, and Podkarpackie and Podlaskie voivodeships – 70% and 73% of the Polish average, respectively. In addition, Warmińsko-Mazurskie and Świętokrzyskie Voivodeships noted low GDP per capita. It should be pointed out, however, that only four regions achieved a result higher than the national average, including the highest - the Mazowieckie voivodeship (158% of the national average), as well as the Lower Silesian, Greater Poland and Silesian.

The financial situation of voivodeship local governments plays a special role in regional development - their investment activities can have an impact on reducing existing development disparities.

4.2. Evaluation of financial determinants of development of voivodship local governments in Poland

Voivodship local governments generated the largest budget revenues in 2023 (their increase on a chained basis constituted +30.4%). Current income grew at a rate of 12-13% per year between 2020 and 2022, reaching 27.2% in 2023. The faster growth in the last year of the analysis was attributable to property income (+51.8%). A positive growth rate in property income was recorded by the surveyed entities in the years 2019-2020 (+13.6% and +9.6%). In the period 2021-2022, property income was characterized by a negative chained rate of change (declining first by 7.2% and then by 14.3% compared to the previous year).

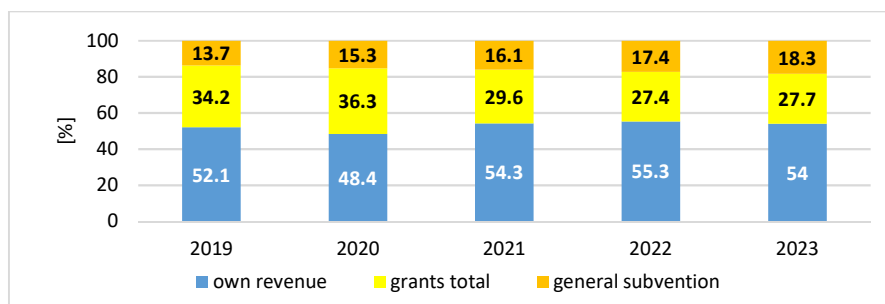


Figure 2. Percentage structure of own and transfer revenues of local government voivodeships in Poland in 2019–2023

Source: Own elaboration based on: <https://www.gov.pl/web/finanse/wynik-biezacy-w-jednostkach-samorzadu-terytorialnego-w-latach-2021---2023>; <https://www.gov.pl/web/finanse/wynik-biezacy-w-jednostkach-samorzadu-terytorialnego-w-latach-2019---2022>

Changes in the generated budget revenues of voivodship local governments are illustrated by their percentage structure (Figure 1, Figure 2). A breakdown by type shows that income from corporate income tax (CIT) predominated – in the years 2021–2023 their share oscillated around 49% of total income. The share of subsidies in the first analyzed period up to 2020 amounted to about 34–36%, then decreased year by year from 2021 to a value of more than 27% in the years 2022–2023. General subsidy share was characterized by an increase from 13.7% in 2019 to 18.3% in 2023.

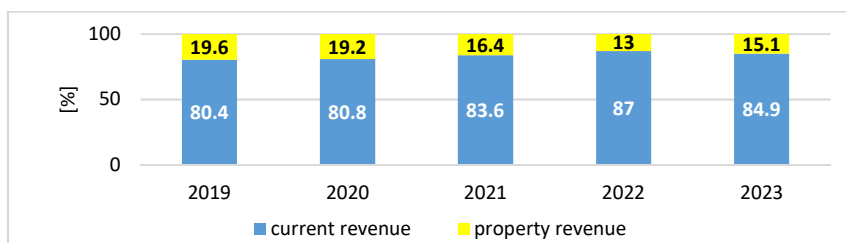


Figure 3. Percentage structure of current and property revenues of local government voivodeships in Poland in 2019–2023

Source: Own elaboration based on: <https://www.gov.pl/web/finanse/wynik-biezacy-w-jednostkach-samorzadu-terytorialnego-w-latach-2021---2023>; <https://www.gov.pl/web/finanse/wynik-biezacy-w-jednostkach-samorzadu-terytorialnego-w-latach-2019---2022>

Analyzing the distribution of revenue by types of activities, it can be pointed out that the current revenue was by far the dominant one (more than 80% – Figure 2). It is intended to finance the operational part of the budget, with the largest share coming in 2022 – 87% of total revenue. Voivodship local governments generated the highest property income in 2023 (their chained growth accounted for +51.8%). The value of grants and investment funds grew even faster, as the positive rate of change for this period was +55.4%. In the years 2019–2023, the share of grants and investment measures amounted to 94.8–97.12% (the highest was recorded in 2023). A period of negative growth in both property income as well as grants and investment measures occurred in the years 2021–2022.

Budget expenditures of voivodship local governments in the years 2019–2023 gradually increased (in 2023, the year-on-year increase accounted for more than 33%). The largest increase in property expenditures occurred in 2023 – 52.2%, while in earlier years, the slowdown in investment activity occurred in 2020–2022.

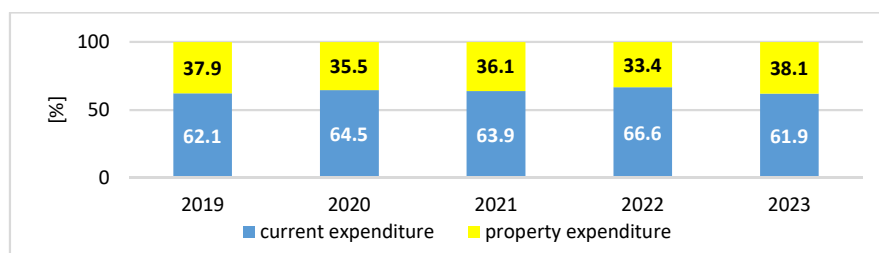


Figure 4. Percentage structure of current and property expenditures of local government voivodships in Poland in 2019–2023

Source: Own elaboration based on: <https://www.gov.pl/web/finanse/wynik-biezacy-w-jednostkach-samorzadu-terytorialnego-w-latach-2021---2023>; <https://www.gov.pl/web/finanse/wynik-biezacy-w-jednostkach-samorzadu-terytorialnego-w-latach-2019---2022>

Current expenditure oscillated between 62 and 66% (Figure 3), with the highest value recorded by the examined entities in 2022. The highest increase in the share of property expenditures in total expenditures occurred in 2019 (37.9%) and 2023 (38.1%), while in earlier years, a slowdown in investment activity resulted in a decrease in the share of property expenditures to 33.4% in 2022.

The voivodship local governments generated a budget surplus in the years 2019–2023. The operating result was positive, but the property result was negative. In 2021, no examined entity recorded a budget deficit. In 2022, 6 provinces and in 2023, 5 ended the financial year with a deficit.

Table 4 presents the indicators selected for the study using the TOPSIS linear ordering method to characterize the budget management of voivodship local governments in the years 2019–2023. We presented the arithmetic mean of the individual indicators for the studied units due to limitations of the paper's scope. A general analysis would suggest that, over the reviewed period, voivodship local governments were characterized by a high share of operating surplus in current income (over 30% in 2021, and 29% in 2023). This translated into high self-financing capacity (the highest in 2021, that is, over 133.5%), as well as financial capacity (a visible progression between 113 and 161.5%) and investment potential (115.8–167.3%), especially in the years 2019–2022. The year 2023 marked a higher utilization of investment potential, similar to the years 2019–2020; the least

capacity in this respect was recorded by the surveyed units in the years 2021–2022. This was a period of accumulating high operating surpluses combined with an apparent slowdown in investment activities. On the other hand, there is evident a significant reduction in the level of total debt, as well as in debt service.

Table 4. Indicators of the budget management of local government voivodeships in Poland in 2019–2023

Indicators		2019	2020	2021	2022	2023
budget indicators [%]	WB2 – Share of current transfers in current income	45.9	49.9	44.5	45.9	46.6
	WB3 – Share of operating surplus in current income	22.8	25.1	30.4	26.3	29.0
	WB4 – Share of capital expenditure in total expenditure	38.9	37.0	35.8	33.9	39.4
	WB5 – The burden of current expenditures on wages and salary derivatives	20.3	19.4	20.1	19.5	19.1
	WB6 – Share of operating surplus and income from the sale of assets in total income	18.1	20.4	25.9	22.8	24.3
	WB7 – Share of operating surplus and property income in capital expenditure (Self-financing ratio)	106.4	122.7	133.5	114.3	109.2
	WB8 – Percentage of total revenue remaining after the end of the fiscal year	8.9	14.6	20.6	19.6	16.2
	WB9 – Development potential for property expenditures and capital repayments	113.7	128.8	159.4	161.5	138.0
	WB10 – Investment potential for property expenditures	115.8	132.4	167.0	167.3	142.4
	WB11 – Utilization of investment potential	88.8	77.9	63.9	63.8	74.3
indicators per capita [PLN/capita]	WL1 – Current transfers per capita	173.9	219.0	220.8	257.8	330.7
	WL2 – Current transfers per capita	88.3	110.2	150.9	147.1	205.7
	WL3 – Operating surplus per capita	163.1	166.8	156.8	143.1	132.5
	WL4 – Total liabilities per capita	251.2	279.0	337.9	372.9	494.8
	WL5 – Development potential per capita	228.3	257.0	312.3	353.7	470.6
debt ratios [%]	WZ1 – Share of total liabilities in total income	33.4	30.2	26.0	21.8	15.1
	WZ3 – The burden of total income on debt service	5.5	4.6	4.6	4.1	4.0
	WZ5 – The burden of current income on debt service	9.3	7.8	7.0	6.0	5.8

Source: Own elaboration based on: Wskaźniki do oceny sytuacji finansowej jednostek samorządu terytorialnego w latach 2019–2021. <https://www.gov.pl/web/finanse/wskazniki-do-oceny-sytuacji-finansowej-jst-w-latach-2019---2023>

Table 5 presents the results of the research for individual voivodship local governments relating to the determination of the synthetic indicator of Pi's development potential and, on its basis, the compilation of a ranking of the analyzed entities.

Table 5. A synthetic measure (Pi) of the development potential of voivodeships in Poland based on the TOPSIS method in 2019–2023

Name of local government unit	Pi 2019	Ranking 2019	Pi 2020	Ranking 2020	Pi 2021	Ranking 2021	Pi 2022	Ranking 2022	Pi 2023	Ranking 2023
Lower Silesia	0,4549	12	0,4424	14	0,4218	14	0,4726	13	0,5601	6
Kuyavian-Pomeranian	0,4849	11	0,4998	12	0,4504	13	0,4866	10	0,5100	11
Lublin	0,1890	16	0,2304	16	0,3582	15	0,2624	16	0,3349	16
Lubusz	0,4500	14	0,4943	13	0,5069	12	0,4359	14	0,3893	14
Łódź	0,4475	13	0,5227	10	0,5338	9	0,4761	12	0,5072	12
Lesser Poland	0,5650	9	0,5417	9	0,5094	11	0,5117	9	0,5058	13
Masovian	0,5767	8	0,6028	5	0,6332	5	0,5547	6	0,5358	8
Opole	0,5785	7	0,5827	8	0,6423	4	0,5821	5	0,6292	5
Subcarpathian	0,6630	1	0,6902	1	0,6965	1	0,6844	2	0,7101	1
Podlaskie	0,5978	5	0,6130	4	0,5202	10	0,5266	8	0,5353	9
Pomeranian	0,6121	4	0,5894	7	0,5783	8	0,5393	7	0,5567	7
Silesian	0,5885	6	0,5129	11	0,6231	6	0,4850	11	0,5248	10
Świętokrzyskie	0,6316	2	0,6418	3	0,6609	3	0,6938	1	0,7085	2
Warmian-Masurian	0,3440	15	0,3402	15	0,3212	16	0,2898	15	0,3641	15
Greater Poland	0,6220	3	0,6798	2	0,6858	2	0,6341	3	0,6890	3
West Pomeranian	0,5163	10	0,5920	6	0,5928	7	0,5961	4	0,6327	4

Source: Own elaboration.

Based on the data presented in Table 5, it can be concluded that in the years 2019–2023, a first place in the ranking was achieved by the Podkarpackie Voivodeship (Subcarpathian Province), with the exception of 2022, in which the highest position was held by the Świętokrzyskie Voivodeship. On the other hand, the Lubelskie Voivodeship (Lublin Province) had the last 16th place (with the exception of 2021 – in this year, the worst results were recorded by the Warmian-Masurian Voivodeship). At a further stage of the study, on the basis of the calculated synthetic indicator Pi, individual voivodeships were ranked into four development potential classes, which are illustrated in Table 6 below.

Table 6. Class of the development potential of voivodeships in Poland based on the TOPSIS method in 2019–2023

Name of local government entities	Class 2019	Class 2020	Class 2021	Class 2022	Class 2023
Lower Silesia	3	3	3	3	3
Kuyavian-Pomeranian	3	3	3	3	3
Lublin	4	4	4	4	4
Lubusz	3	3	3	3	3
Łódź	3	3	3	3	3
Lesser Poland	2	2	3	3	3
Masovian	2	2	2	2	2
Opole	2	2	2	2	2
Subcarpathian	1	1	1	1	1
Podlaskie	2	2	2	2	2
Pomeranian	2	2	2	2	2

Table 6 (cont.). Class of the development potential of voivodeships in Poland based on the TOPSIS method in 2019–2023

Name of local government entities	Class 2019	Class 2020	Class 2021	Class 2022	Class 2023
Silesian	2	3	3	3	3
Świętokrzyskie	2	2	2	1	2
Warmian-Masurian	4	4	4	4	4
Greater Poland	2	1	1	1	1
West Pomeranian	3	2	2	2	2

Class 1 (high)	Class 2 (medium-high)	Class 3 (medium-low)	Class 4 (low)
$p_i \geq \bar{p}_i + s_{pi}$	$\bar{p}_i - s_{pi} \leq p_i < \bar{p}_i$	$\bar{p}_i - s_{pi} \leq p_i < \bar{p}_i$	$p_i < \bar{p}_i - s_{pi}$

Source: Own elaboration.

The first class, consisting of voivodeships with the highest development potential in the years 2019–2023, primarily comprised two voivodeships – Subcarpathian and Greater Poland (in 2022 also Świętokrzyskie). In turn, two voivodeships – Lubelskie (Lublin Province) and Warmińsko-Mazurskie (Warmian-Masurian Province) – were placed in the last, 4th class. In the initial period, a large group of voivodeships, as many as 8, were characterized by class 2 development potential, but this decreased year on year, and in 2023, there were only 5 of them. A similar number (5–6) voivodeships were included in class 3.

5. DISCUSSION

Indicator analysis constitutes one of the most popular assessment methods for the financial situation of local government entities in Poland. In recent years, research in this area has been undertaken in recent years by the following researchers: Rajchel (2021), Łubina (2021); Patrzalek, Gałecka (2022), Kotlińska et al. (2022), Ociepa-Kicińska et al. (2022); Poniatowicz (2022), Jastrzębska (2023); Bąk, Dawidowicz (2023). Indicator analysis is often carried out for the entire budgetary economy, but also in the fields of selected indicator groups. The important topic of the financial self-reliance of local governments was raised by Szolko-Koguc (2021) or Woźnicki (2023). Jastrzębska assessed the determinants of local government finance transparency in order to indicate which of them positively and which negatively affect its level, with particular emphasis on the situation in Poland (2022). Cyburt and Gałecka (2020) pointed to the role of operating surplus in building the financial stability and investment potential of local governments. In assessing the indebtedness of local government entities, studies have been conducted, inter alia, by Filipiak (2018), Kowalska and Legutko (2020), and Rechula (2021). Analysing particular areas of local government's financial activity, based on a selectively chosen group of indicators, may bring reliable research results. However, multi-criteria methods are increasingly frequently used in the analysis and assessment of the general financial condition of local government. As emphasized by Skica et al. (2020) and Kozerska et al. (2017), the financial condition of local government entities is a multidimensional problem, which is why it is recommended to use measures that take into account the aforementioned multidimensionality, including the TOPSIS method. It allows for the preparation of

a synthetic indicator in relation to several diversified criteria for measuring the financial condition of local government entities and their potential for innovation, investment or development (research in this area was conducted, inter alia, by the following authors: Luty, Kożuch, Makutėnas, Butvilaitė (2015); Skica et al. (2020); Galiński (2022). Łukomska-Szarek, Wodarski (2023), Łukomska-Szarek et al. (2024).

The research conducted in this manuscript focuses on a multi-criteria assessment of the financial and development potential of a selected group of local government entities - voivodship ones. The studied period - 2019-2023 - includes both the COVID-19 pandemic, as well as a time of rapid progression of inflation and changes in the global geopolitical situation due to the armed conflict between Russia and Ukraine. The authors intended to pay particular attention to the period after the COVID-19 pandemic. Ociepa-Kicińska et al (2022) assessed the financial condition of local government entities in the face of the COVID-19 pandemic using the example of voivodship local governments in Poland. They postulated that the actions taken by each local government entity to minimize the economic impact of the COVID-19 pandemic involved spending public funds in a different way than what was planned in their budgets. The analysis conducted by the authors has shown that relying on indicators, which, according to theory, should illustrate the financial situation of local governments, in emergency situations such as the COVID-19 pandemic, does not reflect the actual reality of the situation. After analyzing the main indicators, the conclusion arises that the financial impact of the pandemic, in the first period, did not significantly affect the finances of the voivodeship local governments. The impact may have been more pronounced for smaller municipalities that have a different percentage of personal and corporate income taxes. Additionally, they raise local taxes and fees directly from their residents.

This research, based on the TOPSIS linear ranking method, showed that voivodship local governments were mostly exhibiting high and moderate development potential. The studied period illustrates an apparent slowdown in investment activity, the accumulation of high financial surpluses and the underutilization of full development capacity till 2022. It is only in 2023 that the investment activity of the voivodship local governments has started to recover. In the years 2019–2023, the financial performance of voivodship local governments has indicated the presence of two distinct periods. The first one occurred during the COVID-19 pandemic and can be characterized by the budget surpluses and slowdown in investment activity. This was partly due to an increase in current expenditures and partly due to a reduction in development grants (including EU funds). The second period (2022–2023) – a difficult time due to the outbreak of war, full-scale invasion in Ukraine, the increase in inflation and the initially difficult macroeconomic situation of the country, but characterized by a revival of investment activity. However, it is worth pointing out that the impetus for this activity was largely driven by government support (resources provided under the Local Government Roads Fund, from 5 August 2022, the Government Roads Development Fund boosted development projects, albeit mainly in the field of road infrastructure).

6. CONCLUSIONS

In the years 2019–2023, the economic performance of local government in Poland was affected by the instability of the economic and legal environment, affecting the implementation of its developmental activities. The changes in the economic situation in Poland occurring during this period were reflected by the financial condition of the state

budget, and consequently also affected the financial situation of local governments. The highest vulnerability to changes in the economic situation was demonstrated by the operating surplus generated by local governments, which determines the possibilities of financing investments and repaying debts incurred for this purpose. Currently, among the tiers of local government, cities with powiat-level local government rights are in the most difficult situation, while voivodship local governments are characterized by the highest developmental opportunities. The state of the local government finances is important due to the persistent developmental disparities at the regional level and the role of local government in supporting and creating the socio-economic development of the area. Based on the analysis of the indicators of voivodship local governments monitored by the Ministry of Finance in the years 2019–2023 using the TOPSIS linear ranking method, it can be concluded that in the years 2019–2022 the examined entities were characterized by a high degree of self-financing, an increase in both financial and investment potential, although the use of investment potential decreased from 88% to 64%. Over the entire analyzed period, total debt was reduced by half (the share of total liabilities in total income decreased from 33.4% to 15.1%). The voivodship local governments achieved the highest share of transfer income in current income, almost 50%, in 2020. The greatest operational developmental capacity of the voivodeships was reached in 2021 (16 of them generated a budget surplus, none of them generated a deficit), and in 2023, the examined measure was at the level of 29%. The indicated ranking classes, as per the calculated synthetic indicator P_i allow us to conclude that half of the surveyed entities belonged to class 1 (2–3) or class 2 (5–6), in class 3, there were about 5–6 entities, while the last class comprised only two entities.

All authors have read and agreed to the published version of the manuscript.

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LEGAL ACTS

- Ustawa z dnia 30.08.2019 r. o zmianie ustawy o podatku dochodowym od osób fizycznych oraz ustawy o zmianie ustawy o podatku dochodowym od osób fizycznych oraz niektórych innych ustaw (Journal of Laws. 2019, item 1835).
- Ustawa z dnia 29 października 2021 r. o zmianie ustawy o podatku dochodowym od osób fizycznych, ustawy o podatku dochodowym od osób prawnych oraz niektórych innych ustaw (Journal of Laws. 2021 item 2105).
- Ustawa z dnia 12 marca 2022 r. o pomocy obywatelom Ukrainy w związku z konfliktem zbrojnym na terytorium tego państwa (Journal of Laws 2023, item 103).

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THE ANALYSIS OF THE EFFECTIVENESS OF PROGRAMS TARGETED AT PEOPLE BEING IN HOMELESSNESS CRISIS

This article discusses the issue of homelessness in Poland, highlighting its psychological, health-related, and systemic determinants. It focuses on analysing a summary of the literature on the effectiveness of programs targeting individuals experiencing homelessness and is a narrative literature review. It conducts a comparison of key solutions and indicates opportunities for increasing their effectiveness. It emphasizes the influence of traumas, mental health disorders, low self-esteem, and lack of trust on the effectiveness of support programs. The analysis of reports reveals systems shortcomings, limited to emergency aid without coherent evaluation and coordination. The author recommends a change in approach: deinstitutionalization, individualized support, interdisciplinary collaboration, and implementation of “Housing First” and “Job First” models. She believes that standardization, long-term strategies, prevention, and social and professional activation are also crucial in improving program effectiveness, as they increase the chances of sustainable exit from homelessness.

Keywords: people in homelessness crisis, aid programs, effectiveness.

1. INTRODUCTION

The problem of homelessness has been one of the most urgent social challenges in Poland and worldwide for years. The increase in the number of individuals at risk of exclusion, poverty, illness, and disability, as well as the imperfections in the support systems that often fail to effectively counteract this phenomenon, require detailed analysis. The aim of this analytical article is to assess the effectiveness of existing programs, identify their strengths and weaknesses, and outline directions for development based on reliable evaluation and measurable success criteria. The Polish social assistance system lacks unified and comprehensive tools for assessing outcomes, which impedes a full understanding of their effectiveness. Challenges also include developing new support

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models such as Housing First, deinstitutionalization of services, systemic reforms, and ensuring their proper evaluation and continuous staff development.

2. PSYCHOLOGICAL FACTORS – INDIVIDUAL ASPECTS

The success of supportive programs for people in homelessness crisis is strongly dependent on various psychological factors, both on the beneficiaries' side and the supportive staff. Despite the availability of different forms of assistance, many initiatives do not achieve the intended results, often due to long-standing psychological problems of the beneficiaries and limitations in the approach towards them. Figure 1 presents a diagram of psychological barriers affecting beneficiaries of assistance programs.

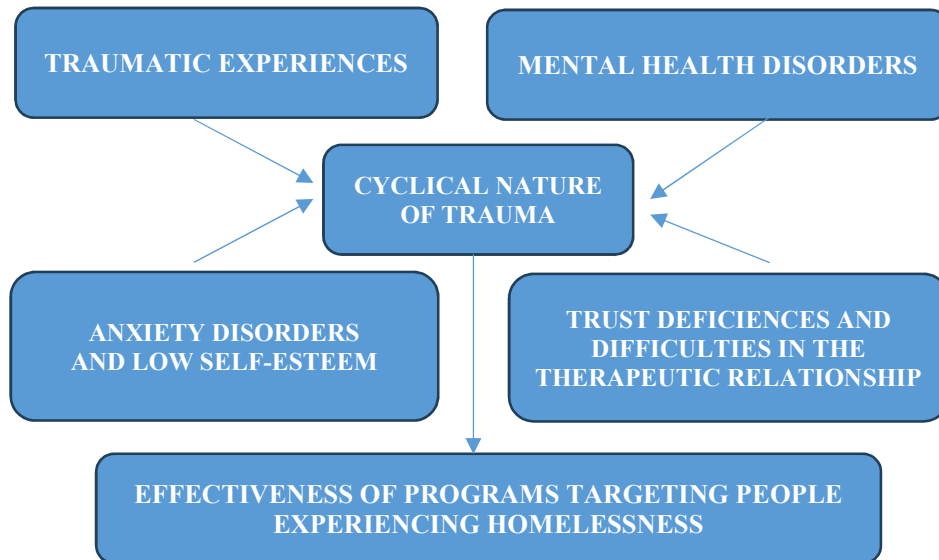


Figure 1. Psychological barriers

Source: own study.

The psychological factors affecting beneficiaries of assistance programs presented in Figure 1 will be discussed in more detail below.

2.1. Traumatic experiences

People experiencing homelessness often have endured traumas such as violence, negligence, loss of the loved ones, or prolonged social exclusion. Traumatic experiences can lead to adjustment disorders, hindering access to support programs and social reintegration. Herman (2024) emphasizes that traumas induce deep fears, dissociative and emotional disturbances, which hinder building trust and participation in therapy. Van der Kolk (1996; 2002) notes that traumas are recorded in long-term memory, creating thought patterns that block positive change. As a result, individuals may have difficulty accepting support, feel intense fear of the lack of trust and rejection, and their emotional reactions – such as aggression or withdrawal – may be excessively intensified.

2.2. Mental disorders and co-existing illnesses

Support beneficiaries often suffer from various mental health conditions, such as depression, anxiety, schizophrenia, addictions, personality disorders, and somatic illnesses. These disorders significantly complicate the use of services, adherence to recommendations, and maintaining stability. Fazel et al. (2014) in a meta-analysis showed that between 25% and even 50% of the homeless individuals suffer from severe mental disorders. Polish publications underline that mental illnesses are a major barrier for effective therapies and reintegration (Dębski, 2008). Working with people in homelessness crisis reveals the complex nature of the problem, which includes both psychological causes and consequences (Miklewska, 2024). On one hand, homelessness often results from mental health issues, and on the other hand, it deepens them, creating a vicious cycle. These disorders hinder establishing relationships with social workers and therapists, affecting adherence to program rules and therapy, thereby reducing their effectiveness. Standard support in such cases should include ongoing psychological and psychiatric support, but in Poland, there is a lack of funds for psychiatric treatment and limited access to specialists due to a shortage of doctors and long waiting periods.

2.3. Anxiety disorders, low self-esteem, and social exclusion

People in homelessness crisis often experience profound social exclusion, leading to lowered self-esteem, chronic anxiety, and lack of motivation to change. Low self-esteem and feelings of hopelessness significantly diminish the effectiveness of aid programs, as individuals do not believe in the possibility of improving their situation, show low engagement, and consequently, low self-efficacy (Yanos, Lucksted, Drapalski, Roe, Lysaker, 2015). Additionally, social isolation and lack of emotional support prevent beneficiaries from engaging in aid activities. Low self-esteem and exclusion also make individuals unable to see the point in seeking help, feel the fear of rejection, and have difficulty in building relationships with social workers and potential colleagues.

2.4. Psychological resilience and defense mechanisms

Many beneficiaries cope with their difficult life situations through strong defense mechanisms such as denial, rationalization, or repression, which hinder accepting help and undertaking actions to change their circumstances. Masten (2014) notes that while these mechanisms protect against excessive stress, they can also block openness to support and necessary changes. Some individuals even engage in self-stigmatization, which becomes a barrier to positive change (Yanos et al., 2015). Contrary to this, those with high psychological resilience may have difficulty confronting their problems, complicating therapy and personal development. Defense mechanisms, though aiding survival, can lead to help rejection and non-engagement in therapy, thereby reducing program effectiveness.

2.5. Trust deficiencies and difficulties in therapeutic relationships

People in homelessness crisis often experience negative relationships with aid institutions, law enforcement, and social workers, leading to deep mistrust of the support system. Corrigan (2012) indicates that negative experiences, stereotypes, and fear of rejection are major barriers to effective assistance. Difficult relationships, inappropriate language, and lack of empathy can deepen the distance and hinder intervention. Poor quality of therapeutic relationships and the lack of trust make beneficiaries unwilling to open up and seek help, limiting program effectiveness. Therefore, effective support must be based on an individual approach, empathy, and integrating psychological therapy with

trust-building. Modern models, such as trauma therapy or resilience-based approaches, can help address these psychological aspects.

3. EXTRENAL FACTORS – SYSTEMIC AND METHODOLOGICAL ASPECTS

Homelessness is both a personal crisis and a social phenomenon of global character, requiring effective programs. Miklewska (2018) emphasizes that these actions should support individuals in understanding the need for help, building trust, self-confidence, safety, and hope. Program effectiveness depends on external factors, analyzed from the perspective of the social support system and intervention methods, to identify conditions that foster or hinder positive outcomes and to suggest directions of their optimization.

3.1. Government reports assessing support programs and their effectiveness

The problem of homelessness poses a challenge to the sustainable socio-economic development of many European countries, including Poland. According to the nationwide survey of the homeless in 2024 (<https://www.gov.pl/web/rodzina/ogolnopolskie-badanie-liczby-osob-bezdomnych---edycja-2024>), Poland had 31,042 people in homelessness crisis at that time. The obligation to fight homelessness is imposed on public authorities by the Polish Constitution (Article 75 of the Act of April 2, 1997 – Dz.U. No. 78, poz. 483), with municipalities responsible for providing shelter, meals, and clothing, delegated to non-governmental organizations under the Social Welfare Act (Article 17(1)(3), Dz.U. 2020, poz. 1876).

Due to the scale of the problem, systematic analysis of preventive and intervention efforts is conducted. In Poland, the main bodies monitoring and evaluating these actions include the Ministry of Family and Social Policy, the Central Statistical Office, and NGOs. The Supreme Audit Office (NIK, 2014 and 2020) regularly assesses functioning of the support system, pointing out to numerous shortcomings and gaps that hinder effective activation and independence of people in homelessness crisis.

Reports from 2014 and 2020 (NIK, 2014; 2020) indicated that the support system for homeless people is ineffective, focusing mainly on meeting basic needs (shelter, meals, clothing) with weak activation and independence initiatives. They highlighted the lack of coherent mechanisms for monitoring and evaluating effectiveness, which limited their efficiency, as well as inadequate service quality standards and uncoordinated preventive actions. Agencies often maintained inconsistent registries, and the staff frequently lacked appropriate competencies, affecting the quality of help (NIK, 2014; 2020). Milanowska and Szwegiel (2021), based on the 2020 audit report, stressed the need to improve the system by introducing rapid social contract signing (e.g., after two weeks of shelter admission), enhancing cooperation between social assistance centers and NGOs, and precisely defining rules and deadlines for contract implementation. They also recommended statutory obligations for evaluating assistance effectiveness, better oversight of service quality, maintaining accurate records, and limiting fees in shelters. Expanding access to various forms of shelter according to current procedures and developing individual pathways out of homelessness were also suggested.

Analysis of NIK reports (2014; 2020) and Zabińska (2022) revealed that the main causes of weak system development include incomplete inter-agency coordination, lack of systemic and regular evaluations, insufficient funding, and insufficient staff and infrastructure basis. The absence of systemic assessments hampers improvement and planning, a situation worsened by the COVID-19 pandemic that exposed systemic

weaknesses. Żabińska (2022) advocates for reforms, improved service quality, more efficient resource expenditure, staff capacity building, and strengthened oversight and monitoring.

Ombudsman Marcin Więcek (2024) postulated establishing a coordinating entity for government actions not only on homelessness, but also in broader prevention efforts, to increase system effectiveness. Despite numerous changes, he notes that the system still does not achieve full effectiveness, and many aid recipients do not attain desired outcomes.

3.2. Improving methods

Supporting the homeless people requires shifting from primarily institutional and interventionist methods towards more long-term, deinstitutionalized approaches. Flexible community-based support that respects the agent and individual needs of beneficiaries is essential, as the effectiveness depends on adjusting actions to each person. Interdisciplinary collaboration among social workers, psychologists, therapists, advisors, and doctors is the key to providing comprehensive assistance concerning housing, health, social, and employment issues (Bieńko, 2022; Chotkowska, 2023; Gagacka, Zaborowska, & Zasępa, 2024; Miklewska, 2024). The modern "Housing First" model, provides stable housing as a foundation for further work (Głowacka, 2019; Wygnańska, 2023), complemented by "Job First" solutions and supported employment, helps rebuild independence and self-esteem (Strączyński, 2021; Miklewska, 2024). Combining deinstitutionalization, individualization, multi-sector collaboration, and innovative models would foster lasting improvements in quality of life and social inclusion for those in homelessness crisis.

4. SUGGESTIONS FOR DIRECTIONS AND TYPES OF CHANGES

Based on the literature review and the author's own experience, she formulates recommendations to improve the effectiveness of existing aid activities for people facing the homelessness problem.

4.1. Standardization and systematic evaluation of outcomes

Standardization and regular evaluation are crucial for assessing program effectiveness and improvement. One key indicator should be maintaining stable housing, measured by the number of consecutive months housed, with a goal of at least 12 months. Another important metric is employment retention, where success means that over 50% of beneficiaries work for more than six months. Long-term social reintegration, including participation in therapy, psychological support, or volunteer activities, should involve at least 70% of participants.

Evaluation should also include improvements in mental health and quality of life, measurable in over 20% of beneficiaries via psychological scales and interviews. Physical health improvements, assessed through clinical parameters, reduced hospitalizations, or adherence to medical advice, should also exceed 20%. Monitoring the durability of these effects, such as sustained improvements after intervention, and reductions in healthcare costs are essential.

Implementing long-term evaluation requires continuous funding and legal solutions to monitor beneficiaries over time. Standardized indicators and assessment tools would enable comparisons across regions and identify the most effective methods. Currently, insufficient funding restricts comprehensive territorial and temporal data collection,

hampering the assessment of long-term results and optimal solutions. Regular audits and independent evaluations could help improve systems and support strategies.

4.2. Inter-institutional cooperation and information exchange

Poor coordination among institutions (social assistance, health services, police) and organizations involved in aid programs is another significant issue. Lack of cooperation and information sharing leads to duplicated efforts, resource wastage, and incoherence. Unlinked systems hinder a comprehensive understanding of the situation. Creating communication platforms and integrated IT systems based on common terminology and tools would facilitate planning and execution, increasing support effectiveness and enabling innovative initiatives.

4.3. Changing support principles and working methods in institutions

Shifting organizational culture from a custodial to a supportive model that promotes beneficiaries' autonomy can greatly enhance program effectiveness. This approach involves active participation of clients in their reintegration, increasing engagement, control, and motivation. Developing competencies such as budget management, job searching, and relationship building helps beneficiaries acquire skills for functioning in society. Long-term, this fosters independence, social and professional integration, and reduces the risk of relapse into homelessness. Promoting partnership-based relationships between staff and beneficiaries builds trust and ensures support driven to their personal needs. Transitioning to a supportive model creates conditions for individuals to regain autonomy, develop potential, and reintegrate more effectively, thus increasing program success.

Training and competences building for staff working with homeless individuals are vital. Caregivers, social workers, streetworkers, psychologists, and therapists often face complex problems involving health issues, addictions, or life skills deficits. Better competencies enable more accurate needs assessment, appropriate support methods, and empathetic relationships. Regular training ensures up-to-date knowledge on diagnosis, intervention, and regulations, enhancing effectiveness of help. Support groups and supervision also help prevent burnout and improve service quality.

4.4. Individualized support

The program success depends on recognizing diverse causes of homelessness—such as unemployment, domestic violence, mental illnesses, or addiction—and suiting interventions accordingly. Creating flexible, personalized action plans (Miklewska, 2024), developed in cooperation with beneficiaries, increases motivation, responsibility, and overall effectiveness of the support process. Personal engagement in planning and implementation fosters commitment and ensures actions address specific needs, improving chances of sustainable exit from homelessness.

4.4.1 Deinstitutionalization

Traditional support system based mainly on shelters and hostels provides only basic needs and rarely leads to lasting improvement. There is a growing emphasis on deinstitutionalization (Bieńko, 2022), focusing on agency and individual needs, developing community-based services that support independence and social integration. Effective deinstitutionalization requires systemic coordination, flexibility, personalized planning,

and a shift in mentality from custodial to supportive. Monitoring outcomes is necessary to make adjustments and ensure lasting results.

Gagacka et al. (2024) also highlight that reducing dependency on closed institutions, expanding accessible flexible aid, and enhancing social integration can facilitate quicker reintegration into the labor market and combat stereotypes. Active involvement of beneficiaries and cooperation across sectors (health, education, labor market) are essential. Barriers such as institutional resistance, resource shortages, and organizational change challenges must be addressed through legal, financial, and systemic support, along with ongoing evaluation to ensure transparency and adjustment to the beneficiaries personal needs.

4.4.2. The crucial need – housing

Increasingly, practitioners emphasize developing flexible, individualized support models. The Ius Medicinae Foundation (Wygnańska, 2023) advocates for focusing on securing personal housing as a key element of leaving homelessness. The "Housing First" model (e.g., the "First Housing" project initiated in 2016 as part of the ERASMUS+ program) assumes that stable accommodation is a support tool, not a reward, enabling safety, motivation, and access to health and social services. The main goal of it is lasting social and vocational reintegration, with beneficiaries reporting improved conditions and health, which fosters social activity and reduces relapse risk.

Głowacka (2019) confirms the effectiveness of "Housing First," highlighting its positive impact on quality of life, reducing re-homelessness, and lowering public service costs, especially healthcare and social services. The model is implemented in cities like Warsaw, Wrocław, Gdańsk, Łódź, Poznań, and Kraków, but requires public education to distinguish it from transitional housing methods and explain its principles (<https://najpierwmieszkanie.org.pl/>; <https://www.czynajpierwmieszkanie.pl>). The program relies on rental agreements defining conditions such as income contribution, restrictions on informal guests, and mandatory visits by specialists. Despite challenges like limited housing availability and funding (Głowacka, 2019; Wygnańska, 2023), it is considered more cost-effective than maintaining homelessness, which generates higher social costs and lacks sustainable outcomes (<https://najpierwmieszkanie.org.pl/>; <https://www.czynajpierwmieszkanie.pl>).

It is important to note that "First Housing" may not suit everyone. For some, a stepwise approach (shelters, transitional housing, supported housing) remains necessary, as regulations in these institutions help beneficiaries maintain sobriety, motivate daily activity, and manage their time effectively, as schedule-based time management helps them to work on their own resources.

4.4.3. Job activity

Providing housing is effective and sustainable when beneficiaries aim to cover their living costs independently, requiring income sources. The "Job First" method motivates beneficiaries to change their living situation by supporting job search and employment (Strączyński, 2021). Support providers assist with their future employer contacts, interview preparation, and job placement, providing access to phones. Evaluation showed that half of participants retained employment, leading to housing changes (Strączyński, 2021). Although promising, this approach requires further research due to small sample size.

4.4.4. *Multidimensional support*

A holistic approach based on supported employment (Miklewska, 2024) involves tailored plans addressing individual needs, skills, and barriers, emphasizing job search, adaptation, and long-term support. An innovative element is engaging students as assistants, helping create CVs, conduct soft skills workshops, and cooperate with local employers. Supported employment aims to rebuild self-esteem and financial stability, but faces systemic barriers such as insecure housing, health issues, and stigma. Changing employer perceptions through social campaigns and training is vital. Combining employment with housing programs, fostering cooperation among organizations, institutions, and employers, ensuring long-term funding and legislative changes are recommended. While well-received by students, this model causes concern among social workers and streetworkers, who report burnout, frustration, and motivational challenges among their mentees.

The caregivers announced their mixed emotions, such as empathy, but also stress, helplessness and fear, which influenced their mental health. Thus, the author of the present article suggests that complex staff supporting programmes should also be introduced in order to prevent the burnout and emotional problems.

Effective support for people facing homelessness crisis should be interdisciplinary, involving therapy, social work, psychological and legal assistance (Miklewska, 2024). Only comprehensive actions produce lasting effects. Chotkowska (2023) notes that many programs do not employ additional specialists, which reduces costs and can be effective with small groups. Larger programs however may require dedicated specialists or systemic solutions. Cooperation between support providers and their beneficiaries is crucial. Sharing insights via dedicated platforms or apps – containing interview summaries, contract details, and progress – can enhance transparency and effectiveness.

4.5. **Systematic and long-term actions**

Prevention and aid efforts are likely to be more effective if systematic and spanning many years. Continuous funding is mandatory for long-term planning and implementation. Short-term, episodic programs may temporarily improve condition of people in homelessness crisis, but at the same time the lack of sustainability results in small effectiveness.

4.6. **Acquiring housing**

One obstacle to housing development is opposition from local communities. Engaging stakeholders early through consultations and cooperation can mitigate negative attitudes. Information campaigns explaining causes of homelessness, benefits of social integration, and promoting supported housing as part of the community can reduce stereotypes and stigma. Cooperation with local and national authorities to implement protective regulations is also essential to prevent unjustified opposition.

4.7. **Prevention**

Homelessness prevention is crucial, as early detection of risks – financial, health-related, or family conflicts – allows to intervene before the crisis escalation. This approach reduces reliance on social aid and street homelessness, benefiting individuals and society. Prevention is also more cost-effective than rescue efforts, lowering social and health costs. It supports stable family and community environments and promotes equality and

integration. Strategies should include education, financial assistance, and broad social activities.

Effective aid programmes for people in homelessness crises require stable funding, service integration, flexibility, and active beneficiary and community involvement. These changes depend on appropriate legal, financial and policy frameworks supporting community-based services.

5. CONCLUSIONS

Homelessness remains one of the most complex social challenges in Poland. Despite numerous initiatives, the support system still needs extensive reforms. The above analysis and the author's own experience indicate that improving program effectiveness involves standardizing indicators and evaluation tools for comparison and optimization. Ensuring housing stability, employment, and lasting social and health integration, alongside individual tailoring of interventions, is vital. Widespread adoption of the "Housing First" method and expanding supported and social housing, in cooperation with the private sector and local communities, can significantly increase success rates. Developing long-term, multi-sector programs based on institutional cooperation, competent staff, and prevention strategies is essential. A cultural shift in support institutions towards promoting autonomy and continuous monitoring, supported by adequate funding and systemic coordination at national and local levels, is also necessary.

The author has read and agreed to the published version of the manuscript.

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DYSFUNCTIONAL AND SOCIO-PATHOLOGICAL PHENOMENA OF AN INSTITUTIONAL CHARACTER IN THE POLICE. ANALYSIS OF THE SUBJECT MATTER

The Police, as a social institution, is not free of various types of behavior and socially disadvantageous phenomena. Institutional pathology is one of such phenomena, being a kind of irregularity in the functioning and the operation of social institutions, as well as a disharmony between the norms or the principles that should be implemented but are not, the power hierarchy and the workplace subordination, between the social expectations and the actual state of things. The subject of analysis are selected dysfunctional behaviors and socio-pathological phenomena of an institutional nature, existing in the police environment. The study discusses such issues as: corruption and the use of one's position for private needs.

Keywords: Police, dysfunctional behavior, socio-pathological phenomena, corruption, the use of position for private needs.

1. INTRODUCTION

Beginning the analysis of the dysfunctional phenomena and social pathology of institutional character in the police environment, it should be noted that the terms 'dysfunctional phenomena' and 'social pathology' are both inexplicit in their meaning, although they have rather negative reference, whereas the concept 'dysfunction' is more neutral and 'pathology' is definitely a pejorative term, both nevertheless refer to axiological issues. As such, an analytical basis assuming existence of socio-pathological phenomena, in connection with dysfunctional phenomena, have been adopted in the study.

A classic researcher studying social pathology, Adam Podgórecki, distinguished two types of such phenomena, including individual social pathology, consisting in behaviors the effects of which directly affect the individual, as well as group social pathology, which 'affects' members of a given social group (Podgórecki, 1973). He also discussed institutional pathology, associated with irregularities in the functioning and operation of

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social institutions (Podgórecki, 1974.) which B. Guy Peters compared it to a disease (Peters, 2009). Bearing in mind the above, existence of these types of social pathology should be noted, i.e.: a) individual pathology, the essence of which entails individual 'suffering', having specific phases and leading to destruction of personality; b) group pathology, the essence of which entails a breakup of group bonds and extra-individual harmfulness; c) institutional pathology, the essence of which entails poor functioning of social institutions in a broad sense (Nowak, Wysocka, 2001.)

Dysfunctional behavior, on the other hand, entails such behavior of an intentional nature that not only violates the common norms, values, principles and rules, but also behavior, whose consequences have an interpersonal dimension, including Machiavellian behavior, i.e. mobbing, bullying, psychopathic leadership, sexual harassment, desocialization, as well as formal behavior, involving the reaching of agreements or the building of relationships, aimed at particular interest and not at social wellbeing nor the organizational dimension, including anti-organizational behavior, such as activity that is meant to be detrimental to the social system as well as antisocial forms of involvement, including corruption or addiction (Szostek, 2015.) Apparently, such behavior can be referred not only to individual or group (collective) situations, but also to institutional ones.

Due to the interpretational difficulty and the disputability of the issues related to social pathology, it is difficult to find a clear 'scientific nucleus' regarding this issue. Marta Petrykowska writes that

the concepts of norm and pathology do not function fully objectively but are rather relative and depend on the socio-cultural circle which a person lives in, the civilizational changes associated with the development of various scientific fields, including medicine, genetic engineering, or new audiovisual techniques, and even on the stage of the person's development. The concept and the scope of pathological behavior has changed historically, with strong influence of cultural, moral and religious factors. It is easiest to consider such behavior as normal, which is most common, customary, and does not deviate from mediocrity. Everything that is different, contrasting, deviating from the average, is called abnormal, atypical, pathological (Petrykowska, 2006.)

Consequently, having a foundation constructed as such, one can analyze what institutional pathology is. According to Waldemar Stelmach,

institutional pathology entails a disharmony between several structural, sociological, organizational and psychological elements, between the norms, principles that should be implemented but are not, a deprivation existing between the power hierarchy and subordination, between the social expectations and the actual state of things (Stelmach, 2010.)

Adam Podgórecki, in his analysis of the abnormalities in the functioning of institutions, lists several factors that characterize those irregularities, including: a) excess of informal bonds, which can transform into various types of dysfunctional groups, including social connections, lobbies, coteries, camarillas, cliques, sieves; b) underdevelopment of formal bonds; c) defectiveness of the selection and promotion system, with particular emphasis on the lack of superiors' competence; d) faulty information flow; e) inadequacy of management style; f) ritualism; g) formalism and lack of operational flexibility;

h) defective and unproportioned distribution of gratifications and sanctions; i) treatment of a given institution as an instrumental means of achieving extra-institutional and private goals; j) the conviction that the institution's objectives are of low social significance or outright socially harmful and that they are rather impossible to actually achieve (For more information on this issue refer to: Podgórecki, 1976). Maria Jarosz believes that the essence of pathology in a given institution's operation entails the fact that it should exist not only to pursue specific social objectives, but for the sake of merely existing. Thus, the primary manifestations of institutional pathology include: a) failure to fulfill the tasks for implementation of which the institution has been established; b) replacement of actual activity with apparent activity; c) 'delegation of powers' to subordinate or unauthorized institutions; d) operation of such institutions, existence of which is not justified or the activity of which is unfit for the real social needs; e) insufficient provision of material and staff resources that are necessary to achieve the institution's primary objectives, including improper employment policy, the filling of managerial positions according to a nomenclature key and not in line with the institution's actual needs nor with the competences of the persons aspiring to hold given positions. That is why facade and apparent activity that camouflages the institution's social usefulness institution may transpire (Jarosz, 1989.)

A much larger 'catalog' of institutional pathology manifestations has been presented by Andrzej Kojder, who lists, among others, such issues as: a) excess informal bonds, existence of various 'connections', coteries, clicks, interest groups inside the institution, which turns that institution into a 'dirty' community, outright of a mafia character; b) underdevelopment of formal ties, especially when the institution has no clearly defined objectives nor any criteria and norms of action, or failure to specify the rules of workplace sovereignty and subordination; c) faulty selection of employees and excessive concentration of power in the hands of incompetent management, an unsuitable promotion and degradation system, decussation of responsibilities, toleration of low standards in the institution's operation; d) faulty information flow, arbitrary selection of the messages received and transmitted, lack of reporting control; e) autocratic style of management, objectification of employees and their duties; f) excessive ritualism in the institution's operation, manifested via extensive bureaucratic procedures, where scrupulous compliance with those procedures is treated as a measure of the results achieved; g) excessive formalism, consisting in overly extensive internal regulations and instructions, too rigid and meticulous adherence to the rules, regardless of the changing situation, followed by constant supervision over the compliance with insignificant principles of official pragmatics, and concomitant belittlement of the quality of the duties performed; h) faulty distribution of awards, i.e. remuneration, promotions as well as other gratuities and penalties, inclusive of admonishment or dismissals, which does not reflect the actual work input, qualifications and substantive achievements; i) concealment of the real purpose that the institution is to serve, implementation of confidential, socially covert tasks; j) petrification, ossification, and rigidity of the structure, the institution's inability to respond to internal and external stimuli; k) bogus activity, performance of various fictitious tasks which only exist on 'on paper' or have been implemented for mere demonstration of activity, data falsification and customization of data to meet the expectations of decision makers (Kojder, 2001).

Accordingly, in order to conclude this introduction to the subject matter, it should be pointed out, as per Waldemar Stelmach, that institutional pathology of a psychological nature is inter alia caused by the neurotic need for power, limited trust in other people, lack

of openness to other people's ideas, orientation towards criticism of others, artificiality of behavior, reduction of interest in psychological needs, disappearance of altruistic and empathic patterns, the shaping of aggressive attitudes towards others, manipulation of information and keeping its essence for oneself, avoidance of work situations that necessitate dialogue. The factors of social nature are not without significance either, including the weakness of the organizational culture within a given system, the conflict of social roles, as well as inadequate mechanisms of employee selection for managerial positions, allowing selection of people with poor psychological fitness, lacking empathy and resistance to non-standard situations (Stelmach, 2010). What should not be omitted either are the research achievements of Erving Goffman and his concept of a total institution, in which a total institution, as a social organization, creates, for the people associated with it, a kind of a separate world governed by its own laws, separated from the rest of the society by more or less tight barriers. The barriers that separate a total institution from the world do not have to be physical, i.e. walls or barbed wires, but can be of a socio-psychological nature as well. This means that in total institutions, in addition to the application of a set of bans and regulations strictly defining each aspect of life, the people associated with them are disassociated from the rest of the society through uniforms, a common culture, or strong financial relationships. Among the factors characterizing a total institution, the author mentions: a) the fact that all daily activities are performed in the same place, under the same superiors; b) at every moment of performing these activities, an individual is not alone, while everything happens with the inseparable company of the other persons working in a given institution, where each is treated equally and is required of the same; c) daily activities are strictly designated in such way that each inevitably leads to a pre-assumed activity imposed by a system of explicit, formal rules and is carried out under the professional supervision of management; d) the fact that such mandatory activity ultimately forms a single rational plan aimed at achievement of the institution's official objectives (Goffman, 2011).

The subject of this study entails an analysis of a third group of dysfunctional behavior and socio-pathological phenomena in the Police, in relation to phenomena of institutional nature, in which the issues of corruption in the Police as well as on the use of one's position for own private needs is discussed.

2. SELECTED PROBLEMS OF INSTITUTIONAL DYSFUNCTIONAL AND SOCIO-PATHOLOGICAL PHENOMENA IN THE POLICE ENVIRONMENT

To begin the analysis of the issue of corruption in the Police, it should be pointed out that corruption is a multidimensional phenomenon, which can be analyzed and diagnosed with regard to the social, the ethical and the legal aspects, thus can affect, in some situations, the state's public security (Walczak, 2018). As noted by Andrzej Siemaszko, Beata Gruszczyńska, Marek Marczewski and Paweł Ostaszewski, corruption is treated as one of the more important contemporary social problems, the essence of which entails its negative impact on most areas of social and economic life in a given society (Siemaszko, Gruszczyńska, Marczewski, Ostaszewski, 2012). Jacek Bil adds that corruption is an abuse of the power entrusted, as to obtain personal gain, as well as a pathology, i.e. an act that is subject to sanctions, consisting in the use of one's position or function to achieve personal gain for themselves or a group of people associated with the culprit (Bil, 2012).

From a formal-legal perspective, pursuant to Article 3a of the Act of June 9, 2006 on the Central Anti-Corruption Bureau (Polish Centralne Biuro Antykorupcyjne, CBA),

corruption is an act: a) consisting in promising, proposing or giving by any person, directly or indirectly, any undue advantage to a person performing a public function for themselves or any other persons, in return for acting or omission to act in performing the person's function; b) consisting in demanding or accepting by a person performing a public function, directly or indirectly, of any undue advantage for themselves or any other person, or accepting an offer or promise of such advantage, in return for acting or mission to act in performing the person's function, committed in the course of economic activity, covering accomplishment of the obligations towards the public authority (institution); c) involving promising, proposing or giving, directly or indirectly, of any undue advantage to a person managing an entity not belonging to any public finance sector, or working for the benefit of this entity, for themselves or any other person, in return for acting or omission to act, which breaches their obligations and constitutes a socially detrimental reciprocity; d) committed in the course of business, covering implementation of the obligations to the public authority (institution), consisting in demanding or accepting, directly or indirectly, of any undue advantage by a person managing an entity not included in the public finance sector, or working for the benefit of such entity in any capacity, or consisting in accepting a proposal or promise of such gains for themselves or any other person, in return for acting or omission to act, which breaches their obligations and constitutes socially detrimental reciprocity (The Act of 9 June 2006 on the Central Anti-Corruption Bureau, 2025). The Criminal Code, in turn, lists a few offenses related to corruption, including: a) passive bribery, or the crime of venality, in connection with a public function, as expressed in Article 228 of the Penal Code; b) active bribery, or corruption, as defined in Article 229 of the Penal Code; c) paid protection, i.e. claim of influence in the settling of a matter in exchange for material or personal gain, as defined in Article 230 and 230a of the Penal Code; d) exceedance of the authority or failure to perform duties, in order to achieve material or personal gain, as defined in Article 231 § 2 of the Penal Code; e) bribery, or the crime of venality, in the context of elections, including voting in a specific manner in return for material or personal gain, as defined in Article 250a of the Penal Code; f) attestation of an untruth in a document, in order to obtain financial or personal gain, as provided for in Article 271 § 3 of the Penal Code; g) economic corruption, as described in Article 296a of the Penal Code; h) corruption offenses, in the context of insolvency and bankruptcy, referred to in Article 302 § 2 and 3 of the Penal Code; h) prevention or obstructing of a public tender, in order to achieve financial gain, as described in Article 305 § 1 of the Criminal Code (The Act of 6 June 1997 Penal Code, 2025).

It can be thus pointed out that corruption is pathological in nature because it depraves authorities, public officials, social offices and institutions, as well as the private sector, distorting the society's organization, disrupting the economic mechanisms and the functioning of other state sectors, while constituting a serious threat to public security (Wawrzusiszyn, 2013). Full interpretation of the definition of corruption is impossible, nevertheless, it should be noted that corruption not only has a moral dimension, but also a cultural one, which manifests itself in a given society in everyday interpersonal relations. It is a socially negative phenomenon that includes bribery, nepotism, and protection while operating in the public sector, including public administration, but also in the private sector or in non-governmental organizations. A 'corruption atmosphere' may exist as well, meaning tolerance for corrupt phenomena, especially with regard to the persons with decision-making powers, regardless of the level of authority. One important part of this practice is the existence of interactions, regardless of the type, between the 'giver' and the 'receiver', whereas these gains can be both material and personal. This relation

encompasses the partners in action, the agreement regarding a given gain, the thing and its value, the exchange of gains, violation of a legal norm or of other rights. A relation described in the sociological theory of exchange emerges (In terms of the exchange theory, corruption can be treated as an estimate of the benefits and losses for both parties to the exchange. More information on the fundamentals of this theory can be found in following papers: Szacki, 2002; Turner, 2012). The partners in the act are driven by a motivation to achieve personal gain and a desire to limit the risk of the agreement being exposed. Corruption also entails abuse of the function entrusted in order to deal with the affairs of other persons or collective entities, or abuse of the position held (Based on: Sulowski, 2012.).

To talk about corruption, at least three primary factors constituting its core must occur. First is the power exercised, which is related to the scope of the decision-making powers held by a given person as well as to the use of authority by virtue of their function or position. These may include the power to manage and dispose of a given institution's assets, to incur financial obligations on its behalf, as well as to carry out activities in the field of staff movement. The second is the tangible and measurable gains that can be obtained by virtue of the position held or the function performed, such as profits and apanages, access to financial asset distribution, professional development, the shaping of the 'career path', promotions, which may involve participation of third parties, owing to a given decision-maker's favorable attitude. The third is the trust in mutual interpersonal relations, perceived by the parties involved as a 'fundamental binding agent' ensuring security of the corruption activities undertaken (Walczak, 2019). Andrzej Kojder is of the opinion that

the essence of corruption consists in such an exchange of goods, services or other benefits that are favorable to the parties involved, which violates any legal norm or some material or symbolic interest (the good name of state officials, the systemic principle, the official pragmatics, the range of competence). The parties involved in a corruption interaction are in agreement with each other, in accordance with the *do ut des* principle – I give, so that you may give. Corruption agreements come about as a result of longer or shorter negotiations, in which language camouflage plays an important role. (...) The partners in a corruption system are always the 'giver' and the 'receiver'. They are driven by the motivation to achieve gains and the desire to minimize the risk they face in the event the agreement (transaction) concluded is revealed. One important feature of a corrupt interaction is the fact that it is always a latent transaction, mutually beneficial for the parties involved. The value of the transaction is what is obtained through it, while its cost is the threat of punishment (Kojder, 2001).

The same author further adds that

the frequency of corrupt interactions is the greater, the more the value of the transaction (the gains obtained) exceeds the costs expected (exposure of corruption, prosecution and conviction) (Kojder, 2002).

Despite the considerable knowledge about corruption, the issue of corruption in the Police has not been well-examined by science. (Moczuk, 2015.) This is due both to the lack of multifaceted research on police activity, despite the existence of police science (See:

Holcr, Porada, 2004; Holcr, Vicenik, 1998; Holomek, Stacho, 2001; Kędzierska, Siemak, Wrześniowski, 2005; Porada, Holcr, Holomek, Erneker, 2006; Semród, 1998) or police sociology (See: Moczuk, 2013; Moczuk, 2009) as well as to the specificity of the issue, which belongs to very socially 'delicate and sensitive' ones. Corruption is then treated as pathology and social deviation, functioning in the highly integrated and hierarchical social institution, which is the Police (Punch, 2009). It should be noted that research on the issue of corruption in the Police has begun to be conducted only recently, whereas the indicated scale of the phenomenon is treated as a social problem as well as an analysis of the issues related to effective opposition of corruption (Dixon, 1999).

Timothy Prenzel, when addressing the issue of corruption in the Police, takes into account two areas of his research, i.e.: a) the structural perspective, as an expression of the condition of a given social structure, resulting from the social structure and the division into the poor and the rich, those having power and those having no power, those aspiring to achieve something and those impeding these aspirations; b) the cultural perspective, related to the cultural system of a given society and resulting from tradition, customs and corruption-related experience (Prenzel, 2002).

Among the causes of corruption in the Police, Tim Newburn mentions the following: a) the specificity of police work, which is characterized by discreet action, resulting from the freedom of decision as to how to act, characteristic of professional services; b) the superiors' inability to continuously control police officers during the implementation of specific tasks; c) the 'non-imposition' of police activity on the public, when publicity is not requisite; d) the peculiar police subculture, characterized by a high degree of internal solidarity and secrecy; e) the superiors' shared system of values and the specifics of the police subculture; f) the constant temptation, resulting from the specificity of the work, both that of a small scale as well as that of significant magnitude, resulting from the existence of organized crime; g) existence of a specific tolerance for the persons involved in corruption; h) lack of proper supervision in the organizational system of the Police, with regard to the sphere of corruption; i) the moral cynicism of some officers who, owing to corruption, can satisfy their needs (Newburn, 2015).

It should be noted, however, that corruption in the Police is a particularly dangerous phenomenon, from the perspective of the interests of both the state and the society as a whole. As the analyzes conducted at the Police Department Internal Affairs Bureau (Polish Biuro Spraw Wewnętrznych, BSW) with regard to corruption prevention show, the most common forms of corruption are bribery and paid protection. That is why 'anti-corruption algorithms', i.e. instances of officers' lawful behavior in the event of corruption temptation, are so important. (Działożyński, 2007). The Police Department Internal Affairs Bureau of the National Police Headquarters (Polish: Komenda Główna Policji) indicates that most common threats of corruption occur in road traffic control as well as in the handling of traffic incidents, which additionally results in extortion of traffic accident compensation, while the risk of drug crime, which younger police officers are exposed to, has increased. Due to the threat of corruption, the Internal Affairs Bureau also focuses on verifying all signals that may indicate participation of police officers in organized crime and in protection of criminal groups, as the most dangerous manifestation of service embezzlement, resulting not only in weakened effectiveness of police activity, but also in the threat to the security of other officers performing official duties. (Węgliński, Pasterny, 2013).

When analysing the issue of corruption, Tim Newburn propagated a term 'police corruption', defined by Snaja K. Ivkovic as

an action or omission, a promise of action or omission, or an attempted action or omission, committed by a police officer or group of police officers, characterized by the police officer's misuse of the official position, motivated in significant part by the achievement of personal gain (Ivkovic, 2005).

Lukasz Szwejkowski notes that police corruption is characterized by the following features: a) it occurs at every level of the chain of command, is independent of the rank and position; b) it should be considered in terms of the objectives, motives and consequences, including financial and image-related repercussions; c) it is a complex phenomenon and cannot be explained using the 'rotten apple' theory; d) its causes lie in the specifics of the police service, where corruption opportunities accompany implementation of police tasks and as well as are part of the hierarchical nature of the police structure and its organizational culture; e) the level of police corruption depends on the type and the degree of the efforts put into preventing and combating it; f) some areas of police activity are more susceptible to corruption than others; g) police corruption needs to be combated, but above all prevented, despite the barriers inherent in the nature of police formations; h) police corruption can only be prevented by going beyond the directly-identified problem, triggering a process of change; i) the changes must be introduced both to the environment in which corruption occurred as well as to the entire formation; j) the process of change introduction is threatened by many factors and thus, it should be the center of focus, with a certain level of skepticism towards the results achieved, as not to distort the purpose of the changes (monitoring, auditing, supervision, control); k) evidence shows that police formations can reform effectively, limiting corruption or even eliminating it from certain areas of its activity (Szwejkowski, 2013).

Brunon Hołyst notes that in the case of corrupt behavior, prevention police officers exploit their knowledge of the routes used by smugglers, creating situations that enable acceptance of material benefits. They may expose the goods smuggled and then resign from further carrying out their duties for an appropriate payment. They can also 'escort' illegal products from the state border to their destination. They can 'look after' foreigners who reside illegally in the country, who sell their goods in bazaars or provide services, including illegal ones. Traffic officers accept financial benefits from drivers during roadside checks, in exchange for withdrawal from issuing a ticket and assigning penalty points. They can also provide information to unauthorized persons about traffic incidents, including vehicle towing companies. Criminal-police officers can provide information on the criminal proceedings against specific persons or information on the progress of individual cases investigated by the Police. Particular type of such instances entails police activity aimed at such supervision of the course of criminal proceedings, as to make the outcome beneficial for a given person, via applicable interrogation of witnesses, management of the verifying proceedings, encouragement or forcing of a specific testimony. Moreover, development of false evidence or obliteration of the traces of a crime may take place as well. Particular type of such behavior entails provision of information to members of criminal groups about the actions taken against them, or provision of warning about the actions taken or the arrests planned. In the logistics department of the Police, the main threats are associated with fuel and materials management. Public procurement is also corruption-generative, due to the

large sums of money that come into play during implementation of projects. Documentation can also be manipulated in such a way as to ensure that only a selected company can implement a given project (Hołyst, 2014). Timothy Prenzel believes that traffic-police officers who perform their duties far from places that can be controlled by internal services are most vulnerable to corruption, just as the officers patrolling the streets and maintaining public order, as well as criminal officers, who are exposed to the temptation of appropriation of personal property (on the account of the actual offender) (Prenzel, 2009).

Research on the scale of corruption in the Polish Police has been described by Monika Porwisz, who indicated that in 2012 corruption occurred in the following voivodships: the Mazovian Voivodeship – 25% of the cases examined, 17% in each the Pomeranian Voivodeship and the Greater Poland, the Lublin Voivodeship – 10%, 7% in each the Świętokrzyskie Voivodeship and the Podlaskie Voivodeship, in the Warmian-Masurian Voivodeship – 5%, the Silesian Voivodeship – 4%, the Lower Silesian Voivodeship – 3%, while in the Kuyavian-Pomeranian and the Lubuskie Voivodeships – 2% each, and 1% in the Łódź Voivodeship. Corruption was committed by prevention officers (86%) and criminal-police officers (14%). The perpetrators were officers employed in the Powiat (Powiat is a second-level unit of local government and administration in Poland, equivalent to a county or district, which is part of a larger unit, a voivodeship or province.) (municipal) Police Headquarters – 64%, in police stations – 35%, and 1% in the National Police Headquarters. Most frequently they were men aged 36–40 (37% of the perpetrators), with secondary education (90% of the perpetrators), married (80% of the perpetrators), with two children (47% of the perpetrators), whose monthly household income ranged between 2000–3000 PLN (36% of the perpetrators), and who have worked 4–10 years in the Police (37% of the perpetrators) (Porwisz, 2013).

Finally, it should be added that many phenomena would not have occurred, had there been an effective system of officer behavior control. It turns out that the reprehensible behavior of some officers results from the lack of an organized, comprehensive system that would counteract dysfunctional behavior. This clearly is a systemic oversight, not an individual one, because officers must be aware of the tasks that from the social perspective are significant, must know that they are not only citizens but also representatives of a state-authority body and a social institution which guarantees all the police officers' rights arising from this work. Thereby, more should be expected of the police officers than of ordinary citizens, while the control of police officers' behavior must be systemic, backed by scientific research. (Prenzel, 2009.)

The last phenomenon analyzed pertains to the issue of using one's position for personal gains, the essence of which entails the fact that it arises on the basis of a malfunctioning institution, when a possibility to use police officers' knowledge by third parties for the benefit of various institutions or private companies emerges. As such, instances of abuse may occur, in relation to illegal acquisition of funds in exchange for information that is not entirely obvious, often confidential. Despite the fact that the issues of using one's position for personal gains concerns only some police officers, this phenomenon should not be underestimated, since it is not private but institutional, while the fact that it is committed by those who have been called to 'uphold the law', shows that those who commit it have a specific understanding of the moral systems. The Police, therefore, as an institution, should undertake activity that is aimed at limiting the scale of these phenomena, all the more that the image of the Police has been flawed (Rykowski, Józefów 2013). Such situation occurs when a given officer, due to relatively low earnings (not including service

allowances) and the desire to get rich, handles certain matters for the benefit of others, with a conviction of his/her own impunity (Chodak, 2013). A fine line exists, however, between bribery and the specific customs and circumstances functioning in the society, which in some cases allow instances of using one's position for personal needs. Doubts arise when these situations concern hidden income or particularly high financial gratification for a certain act or an omission thereof, especially when, depending on the circumstances of subjective and objective nature, they require proper real findings as well as etiological and moral assessment. Under such circumstance of understatement, the so-called 'prisoner's dilemma' appears, i.e. a belief that if one player plays fairly and the other does not, the other one will usually win, which promotes cheating, including the use of own's operational knowledge for the benefit of specific entities (Based on: Sulowski, 2012).

The same aspect has been accentuated by Krzysztof Liedel, according to whom corruption in the Police is addressed with regard to two aspects, an external and an internal one. The first one takes place on the police officer -citizen line and is related to events that occur during performance of official duties. The scope of such behavior is very broad, including: a) acceptance of material benefits from citizens committing misdemeanors; b) acceptance of material benefits from representatives of the criminal environment or those particularly vulnerable to criminal behavior (prostitutes, drug addicts); c) acceptance of material benefits for protection (for specific activity); d) acquisition of material benefits for the sale of evidence of criminal activity. In addition, all these cases are linked to the abuse of one's official position, as exploitation of the power an officer has constitutes an inherent feature of corruption, the mechanism of which consists in the police officer's use of his/her position to extort benefits, or a citizen's use of the police officer's prerogatives of public authority for personal gain (paid protection). The latter occurs within an organization that is specific to total institutions, where a hierarchical system exists, with a certain system of rules and an internal code of conduct. This type of activity is associated with abuse of official position and with activity that is detrimental to public interest. Examples of such activity may include, inter alia: a) the hiding of evidence of a crime and influencing the course of proceedings, for personal reasons; b) the use of the information available for purposes other than duty-related ones and passing his information to third parties; c) unequal access to promotions and bonuses; d) the use of unclear recruitment procedures. The potential social harmfulness of such events is not only factual but also symbolic, as it is associated with police officers' abuse of their office (Liedel, 2005).

Is it thus possible to speak of distinctive police officers' corruption, or is it just a mere derogation from the rules. As Krzysztof Dzietyczyk notes

it is commonly believed that corruption is related to a bribe in the form of an envelope handed under the table. Meanwhile, the term has many meanings. In a sense, corruption means buying someone, and selling yourself or being ready to do so. The latest definition of corruption describes it as the abuse of public office or professional position in order to achieve private gain. Corrupt activity, therefore, can entail all activity that is contrary to law and which is associated with the abuse of the official positions held (Dzietyczyk, 2016).

This is particularly evident in the case described by Richard V. Eric and Kevin D. Haggerty, according to whom police work consists in collecting information, which means that officers spend most time on activity related to information processing, preparation of reports, data transfer, reading, examination of the latest information. In the event of a traffic

accident, police officers spend a lot of time on preparation of documentation that is reviewed by various institutions, including: a) the vehicle registration office, which requires information on the accident location as well as on the vehicles and the people who participated in it. Such information is also needed for: 'risk estimation' in preventive activities, traffic organization and allocation of funds; b) car manufacturers, who want to know what cars were involved in collisions, to improve the safety standards and provide information to consumers; c) the relevant insurance companies, who want information about accidents, to determine who is liable, to award damages, as well as to develop statistics, determine the insurance rates and the amount of compensation for clients; d) the health care system, which collects information about road users' injuries and the circumstances thereof, which is then used to develop statistics and to plan the budget; e) the courts, which receive information in order to press charges in the event of a road traffic offense, as to investigate the offenses properly and secure the evidence; f) the Police, which needs data for its own statistics, preparation of reports and development of databases (Ericson, Haggerty, 2001).

In a few cases, however, the police officers' operational knowledge may be used illegally, for which they may receive certain financial gratification, primarily for the 'effort' associated with the preparation of such information. These entities, among others, include: a) insurance companies, which may use the information in order to refuse to award compensation or to minimize it, whereas the police officers' operational knowledge may be oriented at searching for the largest possible number of 'misconducts', both in relation to the perpetrator as well as the victim/s of a collision or an accident; b) companies that have interest in making a collision an accident, and an accident a disaster, or vice versa, because it enables payment of higher or lower compensation; c) companies transporting damaged vehicles, which may have 'arrangements' with police officers as to the transport of vehicles to parking lots for inspection by collision cost estimators; d) private ambulance companies that deal with the transport of the injured and the victims to hospitals and outpatient clinics, owing to which may be eligible for larger subsidies for their operation; e) private (non-public) healthcare providers, which deal with the treatment of persons 'accidentally' brought for treatment; f) funeral companies, which deal with the transport of the bodies of the people who died as a result of an accident or a disaster (Ericson, Haggerty, 20012).

When such behavior is assumed to be illegal, the society becomes convinced of precaution or cleverness and not of breaking the normative systems. Nevertheless, such semantics is most commonly used by people who acquire certain goods themselves by violating legal and ethical principles. Such activity results in undeserved benefits that arise only because a given officer uses and abuses the authority of the institution which he/she works for, where the cost entails the institution's tarnished image (Dzietczyk, 2016). In such situation, is it possible to speak of the abuse of police officer's position? It seems so, because the Police, as an institution, enjoys particular social trust, whereas any abuse of a police officer's position may prevent that trust. Disclosure of the inside information regarding ongoing cases also may be considered illegal, but for some it may have the value of mere unethical behavior, despite the fact that it results in some illegal income or in other non-employment-related benefits. A problem emerges, therefore, of whether police officers, acting in such manner, exploit their authority, when acting with the intention of supporting institutions that strive to maximize their own profits and are not guided by social interest. Also, a problem emerges of whether such behavior only results from financial motives, or whether there are other conditions for such activity (Newburn, 2015).

As it can be seen, both these phenomena, i.e. corruption in the Police as well as the use of one's position for private needs, are not only closely related, but characterize the dysfunctional behavior and social pathology of institutional nature in the Police.

3. CONCLUSION

To summarize the issues presented, published in three parts, it should be noted that the primary objective of the study has been achieved, meaning the desire to create such a model for analysis of dysfunctional and pathological phenomena in the police environment, as to inspire the researchers dealing with police-related subject matter, making in-depth analyzes of the phenomena described in the study. As a result, such persons, with easier access to this topic as well as to the literature on the subject, can analyze each of the research areas mentioned in depth and in detail.

Another important issue is to make them aware that scientific study of the Police must be conducted from the perspective of various research approaches, including legal sciences, security science, sociology, psychology or other fields of knowledge, but also history or even philosophy. It is also important that, when adopting a paradigm indicating that research on the Police must also include its position and place within the system of public administration bodies, as well as the principles of its organization and functioning as an institution and a part of the society, researchers are required to converge the knowledge and clearly indicate which model of analysis is adopted (The issue has been discussed in: Moczuk, 2009). Accordingly, the police research perspective should be defined from three perspectives: a) a legal approach, in which the Police is treated as a state body dealing with security, whereas the premise of legalism, based on the legal forms of its impact on the society and implemented via the police law, constitutes the basis of its analysis; b) an institutional approach, in which the Police is treated as a social institution, while its scope of interest entails inclusion of security science, management science, and sociology; c) a psychological and sociological approach, in which the Police is treated as part of the society, consisting of individuals, with all its merits and demerits, whereas its scope of interest falls within psychology and sociology (Moczuk, 2013).

This third premise has become the basis for the analysis of selected dysfunctional and pathological phenomena in the police environment, without, of course, rejecting the first two research approaches, examples of which involve phenomena of individual nature, such as suicide, alcohol problems, drug problems, domestic violence, the so-called 'group' phenomena, namely extreme behavior in professional situations, lack of readiness to resist illegal influence, mobbing, as well as institutional phenomena, suchlike corruption and the use of one's position for personal needs and gains.

The postulate that researchers of socially negative phenomena, both those associated with the police environment and those not connected with it, ought to conduct such analyzes with great care, observing and describing the emerging dysfunctional and pathological behavior precisely in specific contexts, is not without significance. One should also show understanding for practitioners who, fearing for their professional development in the Police, for their career or promotion, will not want to take up difficult, ambiguous topics which also expose some social situations, leaving this subject matter for those from outside the environment. One can hope that the persons familiar with this study will also share this viewpoint.

The author has read and agreed to the published version of the manuscript.

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EMPLOYEE INTERCULTURAL KNOWLEDGE AND AWARENESS IN INTERNATIONALISING SMES IN PODKARPACIE PROVINCE

This article studies the state of intercultural knowledge and awareness of employees in internationalising SME subsidiaries of multinational companies (MNCs) operating in Podkarpacie province, Poland. There is dearth of empirical evidence regarding the study area.

First, it discusses concepts related to intercultural communication, including the anxiety reduction theory to minimise possible tensions capable of arising from cultural ignorance and misconceptions. Next, it investigates the study sample, using an online questionnaire based on a 7-point Likert scale. The substantive section relies on eight subsection items to investigate the employees' cultural knowledge and employee awareness.

Research reveals that employees of internationalising SMEs in Podkarpacie province are attentive to their intercultural knowledge and awareness, a desired requirement for successful international business. It also reveals that miscommunication is likely due to misunderstanding and lack of cultural awareness.

Keywords: internationalising SMEs, (inter)cultural knowledge and awareness, multinational companies, intercultural communication, communication ambiguities.

1. INTRODUCTION

Increasing business internationalisation propelled by the unlocking of global markets, including factors affecting its growth, has gained the attention of business and management literature (Santos-Paulino, Trentinib, Bakhtiarizadeh, 2023). Companies intent on growth to enhance their economic significance due to the envisaged benefits would as a matter of interest want to establish their presence in such, often unfamiliar, distant markets (Hua, 2018; Europa.eu/en/. Special Report No 07/2022). Small and medium-sized companies (SMEs) often reach the international market by becoming subsidiaries of multinational companies (MNCs). Employees of subsidiary SMEs may find difficulties adapting and relating with other employees from the parent company due to cultural and communicative problems (Harzing, Feely, 2008). Since international work teams are unavoidably

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multicultural, the role of cultural differences within international work teams in achieving desired corporate goals cannot be underestimated.

The quality of communication is also undoubtedly culturally influenced (Harzing et al., 2011), perhaps attributable to divergent understanding of culturally infused communication symbols, thus resulting in strained relationships and tension (Pop, Sim, 2022), intercultural, as well as managerial conflicts (Min-Sun, Yoshiko, 2022). In multicultural work environments of internationalising companies, miscommunication of ideas or messages, and confusion can be envisaged. Such contextual differences and ambiguities according to Almarza et al. (2015) are attributed to one's perspective level of acceptance/ tolerance of culturally different others from one's perspective. Since observed differences are likely to increase one's anxiety according to Matveev (2017), internationalising companies' employees should possess intercultural competence – the skill to communicate efficiently (Byram, 2020; Dziedziewicz et al., 2014; Iswandari, Ardi, 2022; Harzing et al., 2010) in culturally diverse workspace in order to achieve the desired business objectives.

Intercultural competence, commonly asserted to embody attitudes and motivation, skills, and knowledge (ASK) (Barrett et al., 2013; Matveev, 2017), is largely understood in management literature as a skill that enables interactors in a multicultural forum to participate successfully in communications with a willingness to understand and respond appropriately and respectfully (Barrett et al., 2013; Chen, Starosta, 2000) to persons of different cultural backgrounds. The willingness of such interactors is, in the understanding of Jenifer and Raman (2015), not unrelated to their acquired cultural awareness (knowledge of one's and the other's cultural distinctiveness) and sensitivity (attitude towards observable differences), since achieving collective understanding is paramount to getting work done. Awareness of and willingness to adopt / adapt to prevailing business practices, often infused with local cultural practices, seem crucial for business success and can be considered factors capable of unleashing the much desired growth and business efficiency of internationalising SMEs in Podkarpackie province. However, there seems to be a dearth of studies capturing the state of development in the subject area that could serve as a base for future comparative studies. The following pioneer study hopes to fill this void. A further justification of the current study is the fact that SMEs, including those in the study sample area, tend to see growth potential via their participation in processes of business internationalization.

Podkarpackie province, the study area, is one of 16 provinces located in the southeast. Being the heart of Poland's aviation valley, it boasts several aero-engineering constructions as well as chemical industries. Small and medium-sized enterprises (SMEs) located in the province are not only the leading employers of labour, but also key contributors to its economic growth. Although predominantly mono-cultural, the province has, in recent years, witnessed increased penetration of multinational companies (MNCs). Small and medium enterprises see and exploit the opportunity to realise their goals of internationalization. The purpose of the paper is to investigate and report on the state of cultural knowledge and awareness, a factor in intercultural communication (ICC) in these SMEs, using a self-reporting survey instrument.

2. LITERATURE REVIEW

The observed enhanced possibilities to penetrate hitherto distant markets, due to globalisation has led to the internationalization of businesses. While multinational companies do not necessarily have difficulties in accessing foreign markets due to their

international links, small and medium enterprises, but not limited to them, have not fully utilised the possibilities available through internationalisation. Considering that SMEs are substantive contributors to the economic drive of nations, access to global markets through internationalisation could constitute a growth springboard for SMEs.

2.1. Intercultural Communication Competence (ICC)

In multicultural encounters, participants do not solely rely on the knowledge or competence of their own cultural attributes but draw on the knowledge and awareness regarding the culture of other participants if their mutual goals are to be achieved. However, defining what ICC is has been problematic due, partly, to a variety of theoretical approaches to addressing the issue. Byram's (2009) linguistic perspective, for example, sees ICC as the possession of 'linguistic and sociocultural ability to manage relationships between one's own and other systems'. The systemic approach discussed in Kim's (2001) systems theory is regarded as one's ability to re-organise to cope with the demands of the business environment. The ability to cope with changing business environments through the reorganisation of one's discourse patterns draws similarities with the procedural understanding of Nardon and Hari (2020). Ilie (2019), on the other hand, in viewing the acquisition of communication competencies as the desire to identify skills required for effective intercultural communication, analysed ICC from three, communication, business and military, theoretical approaches. The concept is further defined as a complex of abilities to perform effectively and appropriately in order to 'interact with persons linguistically and culturally different from oneself' (Fantini, Tirmizi, 2006) or 'perform communication behaviours that mediate the cultural identities' (Chen, Starosta, 1998) while participating in culturally different environments. Intercultural communication competence, as can be inferred from the foregoing, is knowledge and awareness that enhances efficient communication in multi-ethnic and cultural diverse work environments, including in SME subsidiaries of MNCs.

ICC has also been elaborately discussed in literature from the perspective of its constituents such as affective, cognitive, and behavioural dimensions (Chen, Starosta, 1998; Bennett, 2008), as knowledge, skills, and attitudes components (Byram, 1997; Ilie, 2019; Matveev, 2017), as well as attitudes, knowledge and understanding, skills, and actions (Barrett et al., 2013). The variable perspectives cannot be seen as mutually excluding, since they refer to similar aspects, which are in some circles referred to as descriptive concepts (Matveev, 2017). The cognitive aspect describes one's knowledge and awareness of cultural diversity. It also encompasses beliefs, norms and values, cultural self-awareness, and culture-specific knowledge. The affective aspect (skills sensitivity) covers ability to observe, listen, analyse, evaluate and interpret performances in both verbal and non-verbal communicative interactions. The behavioural aspect, on the other hand, covers respect, curiosity, including active listening, as well as openness, described as one's willingness to interact with people culturally different and being prepared to consider /accept alternative views in a dialogue (Akdere et al., 2021).

The opinion expressed by respondents in studies by Harzing et al. (2011) that communication barriers between subsidiaries and corporate headquarters are, among other things, due to cultural differences seem to corroborate this opinion. An intercultural competent employee can thus be claimed capable of understanding the practical implications of own culture, showing respect to persons of different language and cultural background, and is able to relate appropriately and efficiently to issues during a business communication encounter.

2.2. Cultural and communicative competence

Every form of human communication is, as a matter of fact, culturally embedded to reflect social behavioural norms, appropriate for a given situation (Byram and Guilherme, 2010). This, in essence, means possessing the knowledge and awareness of what and how information should be communicated, including the appropriate response taking into account the social-cultural context.

The existence of different types of culture is uncontested as each, according to Ilie (2019), is distinguishable by its language, the behaviour and attitudes towards issues such as meanings attached to non-verbal communications, customs, norms, values and shared behavioural patterns (Guang, Trotter, 2012), among others. Undoubtedly, the free cross-migration of labour and the quest by MNCs to recruit skilled and experienced teams, irrespective of their cultural backgrounds or identities, have intensified debates on the issue. Effective communication in such mixed-cultured environments, especially in multinational work teams, requires participants to possess skills and competences that enable them to understand cultural varieties and intricacies of information exchange, for effective job performance.

Communication as defined in literature can be understood as a two-way social interactive process aimed at impacting meaning, using appropriate linguistic forms that enable coparticipants make sense of the given situation (Nardon, Hari, 2020) and achieve their objectives of the engagement. The concept can, from the procedural perspective, be defined as sharing notions, feelings, knowledge, information, etc., between interactors verbally and non-verbally (Arqoub, Alserhan, 2019; Chen, 2014). Furthermore, communicative competence (CC) according to Spitzberg and Chagnon (2009) is an individual's ability to appropriately and effectively conduct discussions with people presenting somewhat different cognitive, affective, behavioural and cultural views. From the recipient's perspective, on the other hand, it is being able to comprehend and recognize the new knowledge, based on already acquired knowledge (Grosseck, 2012), thus improving the appropriate or desired response. Therefore, the procedural approach requires the participants' readiness to adapt to changing/or evolving phases of the dialogues.

Communicative competence, from the foregoing, especially when persons of varying cultures interact as in MNCs, ought to be understood as the suitable mix of attitudes, knowledge and understanding, as well as skills and behaviours that could be deployed in given intercultural interactions. The essence of this is to facilitate understanding, appropriate response, and respect, as well as understanding while participating in intercultural communication, especially when the desire is to achieve socially beneficial or corporate objectives. Indeed, the literature on the subject emphasises that a good (acquired) knowledge of one's cultural and linguistic specificities facilitates understanding, interpretation of and responses (Matveev, 2017; Grosseck, 2012; Barrett et al., 2013) to the communicative expressions of other culturally different interactors.

2.3. IC communication ambiguities

A person's identity does not only describe its cultural relatedness, but also, according to Barrett et al. (2013), one's personal and social distinctiveness, helping them make sense of who they are, their belonging, and what kind of behaviours are expected of them or not. The level of tolerance and openness, extroversion/ introversion, for example, will, without doubt, impact one's readiness to engage in communication with people of differing cultural identities. This awareness and understanding of cultural expectations (and limitations) in communicating with persons of other cultures shapes our interactions and eventually our

expectations, especially in multicultural business environments. Any miscommunication in such interactions, perhaps as a consequence of their varying views on global and social issues or sheer ignorance is capable of, as argued by Arqoub and Alserhan (2019), resulting in distorted messages, mistrust, frustrations, tension, stereotyping, and racial prejudices.

It is not uncommon that encounters between people of varied cultural backgrounds can reveal dissonances and challenges (Hua, 2018) in their communicative competence, thus inhibiting further interactions. Impaired comprehension between interactors is likely to result in uncertainty or anxiety. Uncertainties that provoke anxiety and ways of minimising them in communication is discussed in the literature. For example, uncertainty reduction theory (Matveev, 2017) discusses how interactors attempt to anticipate possible misconceptions and hence develop strategies to curtail such ambivalences. Such approaches are crucial in multicultural workplaces, as any deviation could possibly result in missed business opportunities. Although corporations work toward minimising communication uncertainties, it is worth noting that anxiety due to uncertainty as an emotional expression relates, most of all, to the individual employee. However, the evolving situation should not be viewed strictly from its inevitable negative impacts, as it can serve as an impulse for continued enhancement of intercultural competence. Therefore, prospective employees seeking future employment in intercultural work environments should enhance their IC knowledge and awareness of formal / informal IC through various forms of training, for effective communication.

2.4. Literature Review Summary and Research Questions

The study sample covers employees of SMEs that are subsidiaries of MNCs in Podkarpackie province, Poland that is predominantly a monocultural society. The province has attracted significant penetration from multinationals in the aerospace and chemical industries. Until now, no empirical studies regarding employees' cultural knowledge and awareness of employees on the job in Podkarpackie province has been carried out. Furthermore, while the existing literature had focused on the role of language in cross-cultural communications and on the consequences of miscommunication (Harzing et al. 2011; Harzing, Feely, 2008; Pop, Sim, 2022), not much space has been given to the importance of culture in communication in multicultural work environments. Therefore, the article aims to investigate and report on the state of cultural knowledge and awareness in this province, using a self-reporting survey instrument. It will also investigate whether the state of cultural knowledge and awareness of employees is influenced in any way by their characteristic traits, using two research questions (RQs).

1. Characteristic traits of employees have a statistically significant impact on their knowledge and awareness of intercultural communication (RQ1).
2. Sex has a statistically significant impact on employees' knowledge and awareness of intercultural communication (RQ2)

3. RESEARCH METHODOLOGY

To achieve this objective, the study investigated the self-report forms returned by respondents, assessing their knowledge and awareness about ICC and whether their characteristic traits, including age, sex, job position held, work experience, and company size, exert any statistically significant correlation with knowledge and awareness. Eight subdimensions, including expressing own views and cultural values, understanding verbal expressions, understanding non-verbal expressions, and existing differences in responses

in styles of communication are investigated. Other subdimensions covered include cultural differences in responses to different messages, flexibility in dealing with misunderstandings, cultural differences in responding to critical feedback, as well as cultural similarities and dissimilarities. Care was taken to ensure that the three dimensions/concepts, namely affective, cognitive, and behavioural, in keeping with earlier studies testing MPQ scales (Bennett, 2008; Ilie, 2019; Matveev, 2017), are embodied in the eight subdimensions.

The instrument applied for data collection was a questionnaire, designed following the pattern contained in the Multicultural Personality Questionnaire (MPQ), commonly used in the literature to investigate intercultural communication competence (Van der Zee, Van Oudenhoven, 2001; Matveev, 2017; Hofhuis et al., 2020). Appendix A contains the items and descriptions of the scales applied in the Multicultural Personality Questionnaire. It is the short version of MPQ (Van der Zee and Brinkmann, 2004) for investigating three dimensions of knowledge, skills and motives/attitudes (ASK) in line with Byram (1997) and Huang (2021) models. However, the requirements of the corporate environment require complex approaches. Hence, the item ‘intercultural empathy and uncertainty’ of Collaborative Intercultural Competence to investigate multicultural organizations (Matveev, 2017) is incorporated in this study. This is in recognition of the fact that the corporate culture of MNCs having their subsidiaries in the studied area might differ, perhaps, significantly. This is also in recognition of the fact that no previous empirical studies have been performed regarding the sample area.

The questionnaire, designed using Google Forms, consisted of two parts. Part A is an 8-item questionnaire to investigate the knowledge and awareness dimension, which requires respondents to self-report if the subdimensions are applicable to them, on a 7-point Likert scale (1= lack of knowledge and awareness; 7= high level). Part B aimed to investigate the characteristic features. In this part, the respondents were asked to choose an applicable answer from the alternatives provided. The questionnaire was in English, which means that only competent users of the English language, in the responding subsidiaries, could participate in the survey. Nevertheless, this is neither intended assumed that English-speaking employees are more multicultural nor is it a bias against other language users in multicultural business environments. Since this is a pioneer study in the topic area, especially with respect to the province of Podkarpacie, some basic assumptions need to be adopted that pave way for future comparative studies in the subject area. The outcome is that the total number of responses returned was lower than current levels of employment in the participating companies. This, notwithstanding, lends credence to the reliability of the responses.

Being aware of the difficulties in accessing subsidiary employees, the questionnaire was sent to the HR departments of MNCs’ subsidiaries with a request to encourage employees voluntary and anonymous participation. The statistical analyses made use of Pearson's chi-square independence test, the Mann-Whitney U- test, and Kruskal-Wallis ANOVA test. Correlation and regression analyses were also performed. The study was carried out at a significance level of $\alpha=0.05$.

The online questionnaire was sent to the HR departments of the subsidiaries responding MNCs in December 2022. A total of 65 completed responses were retrieved by email and, after being carefully analysed, 58 (89%) were found suitable, coded, and subjected to further statistical analysis. A major obstacle observed at this stage was the unwillingness of some MNCs’ subsidiaries to participate in such surveys due to constraints from their head offices that do not encourage employee participation in surveys. To mitigate the

possible negative impacts, thus enhancing data collection success rate, follow-up reminder calls were made to respective HR departments. The study and its findings corroborate earlier claims (Van der Zee, Brinkmann, 2004) of the suitability of the MPQ instrument for testing potential respondents working in international and multicultural teams.

4. RESULTS AND DISCUSSION

The findings indicate that the respondents, men (71%) and females (29%), were between 21 to over 50 years old. They are employed in positions where they work with clients, partners, or team members using a foreign language instead of their native Polish language. They work in multinational / multicultural teams, participating in meetings with their counterparts at their respective head offices, as well as in business negotiations with partners and clients.

Although up to 22 (38%) of the respondents are junior office, nonmanagerial employees, over 60% of them occupy decision-making, lower-level (36%) and higher-level (26%), managerial positions. Almost 60% of the female respondents occupy lower-level managerial positions, and only 6% of them in higher managerial positions. A significant observation is that managerial positions are clearly dominated by respondents over 41 years of age. The majority of the respondents evaluated their scale of intercultural experience, measured as knowledge and awareness as good or very good. However, up to 42% of the respondents expressed their uneasiness in handling non-verbal communications.

Regarding their work experience, the dominant groups are those with 6-10 years and over 21 years of experience, 33% and 28%, respectively. It should be noted that employees with 11 to 20 years of work experience only constitute 16% of the total. The results also indicate that more than 70% of the respondents work in subsidiaries of medium- and large-sized MNCs, 37,9% and 36,2%, respectively. While one out of four respondents work in small-sized MNCs, the lack of persons representing micro- enterprises could be adjudged as lack of awareness regarding the relevancy of intercultural communication in modern day business.

The study findings were analysed to determine whether any of the descriptive characteristic traits of the employee, namely the position, age, and work experience, indicated correlations with the knowledge and awareness of intercultural communication competence (Table 1).

Table 1. Mean scores for knowledge and awareness assessment by respondents' descriptive factors

Knowledge & Awareness	Work position	Junior employees	Low level managers	High level managers	-	-
	Mean (\bar{X})	4.67	5.52	5.06	-	-
	Employees (nos.)	10-49 staff	50-249 staff	> 250 staff	-	-
	Mean (\bar{X})	4.38	5.43	5.21	-	-
	Age (yrs)	21-30	31-40	41-50	Over 50	-
	Mean (\bar{X})	4.01	5,25	5.15	5.53	-
	Experience (yrs)	Less than 1	1-5	6-10	11-20	21+
	Mean (\bar{X})	3.46	4.43	5.38	5.58	5.19

Source: Based on research analysis.

The analyses of mean averages (\bar{X}) indicate that knowledge and awareness were the lowest by employees aged 21–30 years (average 4.01). Ratings increased with employees age from a mean average of 5.29 (31–40 years old) to 5.53 (the over 50s). A similar trend was observed regarding the position of the work as the junior employees rated their mean average of cultural knowledge and awareness as 4.67, while low-level managers and high-level managers rated theirs as 5.52 and 5.06 respectively. Employees with no longer than one-year work experience as well as employees of small-sized subsidiaries also reported their knowledge and awareness regarding ICC was very low, 3.46 and 4.38, respectively, in contrast with employees with more than six years working experience (5.38). The findings are pointers in support of the argument that (inter)cultural knowledge and awareness of employees in SME subsidiaries of MNCs is enhanced or positively influenced by their years of work experience, positions held, age and size of the company.

To determine the existence of any dependencies between descriptive features and their reported levels of intercultural knowledge and awareness, nonparametric tests were chosen for the study because the quantitative variables did not follow a normal distribution. Furthermore, when examining the relationship between a quantitative and qualitative characteristic (e.g., gender) with only two categories, the Mann-Whitney U-test was used, while when examining the relationship between a quantitative and qualitative characteristic with more than two categories (e.g., age, work position, and others), the Kruskal-Wallis ANOVA test was used. The results (Table 2) indicate that the level of ICC, measured in terms of knowledge and awareness, is influenced by his age $p < \alpha$ ($p = 0.0034$), occupied work position $p < \alpha$ ($p = 0.0074$), years of work experience $p < \alpha$ ($p = 0.0046$). Based on these findings, it can be concluded that employee characteristic traits have a statistically significant impact on their knowledge and awareness of intercultural communication in the workplace. This knowledge is of practical utility for the internationalisation of SMEs. Therefore, the thesis that employee characteristic traits, age, work position, and work experience have a statistically significant impact on knowledge and awareness for intercultural communication (RQ1) is confirmed.

On the contrary, the Mann Whitney U-test applied to investigate possible existing correlations between the sex and levels of intercultural knowledge and awareness did not indicate any significant correlation for sex, $p > \alpha$ ($p = 0.0993$). As a result, the thesis suggesting that sex has a statistically significant impact on knowledge and awareness regarding intercultural communication (RQ2) of the sample studied cannot be confirmed. A more robust study with larger female participation is recommended to further test the impact of sex on employee knowledge and awareness of intercultural communicative competence in their workplaces.

Table 2. Results of the Mann Whitney U-test and ANOVA Kruskal-Wallis test

Knowledge & Awareness	Respondent's metrics	p-value
	Sex	0.0993
	Age	0.0034**
	Work position	0.0074**
	Language competence	0.5471
	Work language	0.4931
	Work experience	0.0046**

Source: Based on own research findings. **Significant dependency between employee traits and ICC knowledge & awareness.

Since the Mann Whitney U-test (Table 2) did not signal any significant dependency between sex and knowledge and awareness about intercultural communication $p > \alpha$ ($p=0.0993$), further analysis was conducted (Table 3). The analysis revealed a significant dependency between the knowledge and awareness of women for ICC and the understanding of non-verbal expressions $p < \alpha$ ($p=0.0425$) as well as cultural differences in communication styles of communication $p < \alpha$ ($p=0.0258$). The analysis of male responses did not, in contrast, indicate such dependencies.

Table 3. Mann-Whitney U-test results. Gender assessment regarding sub-dimensions

Knowledge & Awareness	Female responses regarding sub-dimensions	p-value/females	p-value/males
	expressing own views and cultural values	0.0711	0.6965
	understanding verbal (speech, tone, etc.)	0.3453	0.9856
	understanding non-verbal expressions (body language, gestures, etc.)	0.0425*	0.0812
	existing differences in styles of communication	0.3437	0.9929
	cultural differences in responses to different messages	0.0258*	0.6646
	flexibility in dealing with misunderstandings	0.1846	0.4926
	cultural differences in responding to critical feedback	0.2124	0.4500
	cultural similarities and dissimilarities	0.8530	0.3836

Source: Based on own research findings. *Significant dependency between sex and ICC knowledge & awareness.

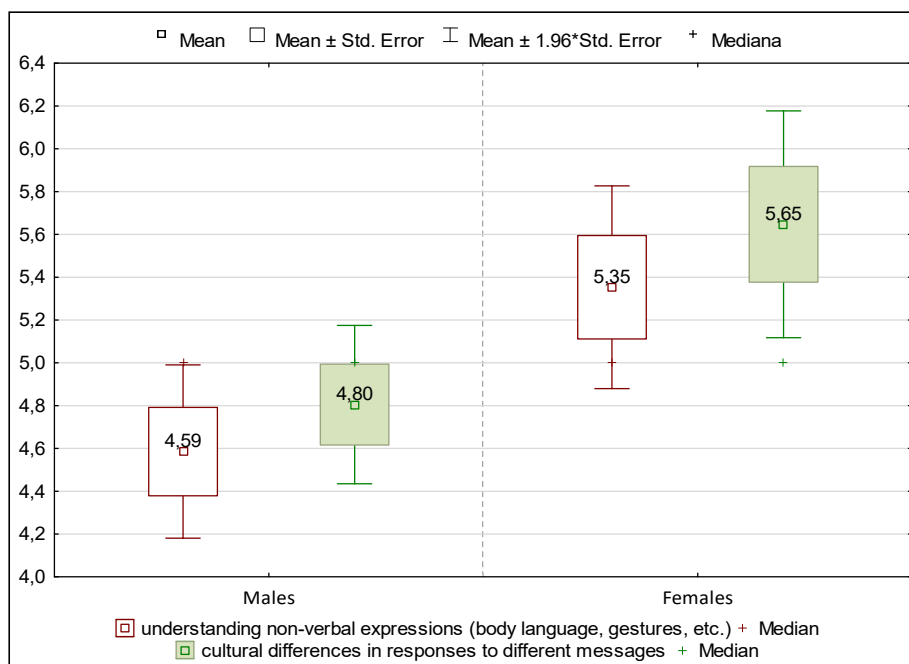


Figure 1. Respondents' understanding of non-verbal expressions (body language, gestures, etc.) and cultural differences in responses to different messages by sex

Source: Based on own research findings.

Indeed, findings of the box-plot analysis (Figure 1) indicate that female respondents rated their competences regarding both subdimensions, understanding non-verbal expressions (body language, gestures, etc.) and cultural differences in responses to different messages much higher, 5.65 and 5.35, respectively than their male counterparts, 4.80 and 4.59, respectively. This may be deduced to reflect the sensitivity of women, namely their aptness to recognise and adapt behaviours with respect to other cultures. On the other hand, this can perhaps be deduced as scepticism regarding non-verbal (body language) forms of communication that vary substantially between cultures. Scepticism as an expression of uncertainty encountered in intercultural contacts is capable of evoking negative (avoidance) or positive (accommodation) reactions. It can also be accepted as a culture shock due to one's inability to interpret and therefore respond adequately to new cultural prompts. These views seem to mirror the conclusions expressed by Arqoub and Alserhan (2019) and Matveev (2017). However, it can be postulated that improved knowledge and awareness regarding ICC would favour tendencies toward accommodation and adaptability (minimising uncertainty) to observed intercultural differences in workplaces of employees.

Furthermore, the results clearly indicate increasing levels of knowledge and awareness, along with age and work experience. These findings can be adjudged to mean that knowledge and awareness can be improved while pursuing a career in multicultural work environments offered in MNC subsidiaries. Therefore, this seems to corroborate opinions (Chitakornkijasil, 2010; Jenifer, Raman, 2015) on the need for more efficient intercultural communication through training and exposure. Additionally, the desire for career advancement and competitiveness could be considered motivating factors to improve intercultural knowledge and awareness. However, self-reported levels of knowledge and awareness of respondents witnessed declines among higher-level managers and employees of subsidiaries of large multinational companies covered by the study. Could this be interpreted as a lack of motivation, perhaps due to less competition at this stage of one's career? Since this cannot be concluded in the current study, it signals the need for further in-depth research on the subject matter.

5. CONCLUSIONS

The exploratory quantitative study sought to determine the state of intercultural knowledge and awareness of Polish employees in SME subsidiaries of multinational companies located in Podkarpacie province, Poland. Knowledge and awareness as a dimension of intercultural communicative competence was studied through the perspective of eight subdimensions, based on the employee self-reporting questionnaire. The results not only contribute to cognitive knowledge in the subject area but offer insights into trends in corporate employment in multinational/multicultural work environments, as well as the quality of labour availability in Podkarpacie province. This knowledge offers practical input for policy planning and curricula designing.

The statistical analyses of the findings conducted using the Mann Whitney U-test as well as the Kruskal-Wallis ANOVA test, validated the two research questions. The results justify the conclusions reached in the article. First, Polish native employees in SME subsidiaries of MNCs located in the study area are well informed about issues of intercultural knowledge and awareness, regardless of their sex. Female employees in the MNCs' subsidiaries are, in comparison to their male colleagues, distrustful of non-verbal communication patterns and are wary of their responses to such dialogues. This seems to

underscore the deep cultural embeddedness of such forms of communication, which undeniably may result in ambiguity of interpretations. This cannot be adjudged to be not connected with the social and cultural specificity of the ethnic nationalities that inhabit the province. As a consequence, this is capable of causing associated uncertainties. To ameliorate this weakness amongst female employees, more exposure through workplace training could be helpful. Secondly, the study has revealed that intercultural competence, especially knowledge and awareness, can be enhanced working in multicultural and multinational work environments, as the study findings indicate its increase along with the employee's age, work experience, and the position of responsibility.

However, a contrasting finding is the reported decline in intercultural knowledge and awareness among higher-level managerial staff and employees of large MNC subsidiaries in the studied area. Could this be inferred to mean the lack of motivation or an expression of self-complacency by employees at such levels of employment? Future studies are recommended, perhaps using a more complex research instrument, to investigate ICC amongst high-level managerial staff, especially in subsidiaries of large MNCs.

Extended studies are also recommended to include other language users to offer a much clearer situation concerning employee intercultural knowledge and awareness in internationalizing SMEs both in the current study area and in other Poland's provinces. This should enhance the replicability of the study. Despite being a pioneer study in the sampled area, the results offer credible insights into the subject area, thus encouraging further studies, useful to both academic and career development as well as policy makers.

Finally, despite the limitations of geographical spread and sample size, the study serves as a significant incentive for a more detailed diagnosis in this crucial area of intercultural communication competence for enhanced corporate performance in international markets. It is also an eye-opener for graduates who hope to pursue careers in multinational companies.

The author has read and agreed to the published version of the manuscript.

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ECONOMIC SECURITY, FREEDOM IDEAS VS. RELIGION. THE POLISH EXPERIENCE

This article discusses the relationship between religion and the economy, demonstrating that religious systems have for centuries influenced work ethics, attitudes toward wealth, and social justice. Religion shapes the moral foundations of economic life, fostering stability and building social capital. Religious communities increase societies' resilience to economic crises. The role of the Catholic Church in Poland, which supported the transformation of freedom and the ethic of solidarity, is of particular importance. The article highlights the views of clergy such as Father Jacek Gniadek, Father Jacek Stryczek, and Father Maciej Zięba, who combined Christianity with the idea of the free market. It also cites the reflections of Father Józef Tischner on the responsible use of freedom. John Paul II recognized the free market but warned against its dehumanization and exploitation. The overall conclusion is that religion serves as the moral compass of the economy, strengthening economic security and social solidarity.

Keywords: religion, faith, economy, freedom, security.

1. INTRODUCTION

Economic security, understood as the financial stability of individuals, social groups, and the state, is a key element of broadly understood security. Religion, as a system of values, norms, and practices, has for centuries shaped economic behavior and attitudes toward work, consumption, wealth, and poverty. From an academic perspective, the relationship between these two areas can be analyzed in historical, sociological, cultural, and geopolitical dimensions.

2. HISTORICAL AND THEORETICAL OUTLINE

Religions, through their moral norms, influence the principles of honesty, responsibility, and solidarity in economic transactions. Catholic social teaching, Islamic law prohibiting usury (*riba*), and the Protestant work ethic (Weber, 2011) indicate that

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religion shapes people's attitudes toward work, wealth, and social justice. This influence can strengthen economic security by fostering stable and transparent economic relations.

Sociological research (Putnam, 2000; Fukuyama, 1995) indicates that religion fosters the building of social capital and trust in economic relations. Religious communities are more likely to cooperate and support each other economically, reducing the risk of exclusion and marginalization. In this context, religion serves as a stabilizing factor in the economic system.

However, it cannot be overlooked that religion can also be a source of tensions that directly impact economic security. Religious conflicts result in sanctions, trade blockades, and investment outflows, which negatively impact the economy (see: Galtung, 1996). For instance, sanctions against Iran stemming from its political and religious model have significantly reduced the country's economic security.

In the context of globalization, religion increasingly manifests itself through initiatives related to ethical investing, responsible business, and sustainable development. Investment funds aligned with religious principles (e.g. Islamic finance or Catholic ethical funds) create an alternative model of capitalism based on moral values. This connection between religion and the economy can increase economic security by minimizing the risks associated with excessive materialism or speculation.

In his classic work, *The Protestant Ethic and the Spirit of Capitalism*, Max Weber highlighted the importance of the Protestant work ethic and rational management for the development of capitalism in Western Europe.

Religious traditions (Christianity, Islam, Judaism, Hinduism, Buddhism) contain norms regarding fair trade, usury, almsgiving, and the redistribution of goods, which influence the shape of economic systems and the sense of economic security of communities. In this context, it is worth considering the following issues:

A. Normative and ethical dimensions.

Religions shape attitudes towards wealth and poverty – for example, Christian social teaching promotes solidarity and social justice; Islam establishes the obligation of zakat (almsgiving).

The influence of religion on economic legislation – for example, the prohibition of usury in Islam resulted in the development of an Islamic finance system based on ethical principles.

B. Building social capital – religious communities, through charitable and educational activities, increase the resilience of societies to economic crises.

C. Religion and the sense of economic security of individuals and communities.

D. Psychological dimension – religion provides a sense of meaning and stability in the face of economic crises, reducing fear of the future.

E. Institutional dimension – Churches and religious organizations fulfill a caring role (e.g. helping the poor, migrants, and the unemployed), mitigating the effects of inequality.

F. Sociopolitical dimension – religion can stabilize or destabilize economic life, depending on whether it promotes solidarity and work or sanctions inequality.

G. Globalization: religions adapt to market capitalism in various ways – from cooperation with business (evangelical churches in the US) to a critique of consumerism (Pope Francis).

H. Migration and multiculturalism: different religious ethics coexist within a single economic system, which can lead to conflicts but also to synergies (e.g., the development of ethical finance).

I. Economic and ecological crises: religions reflect on distributive justice, responsibility for future generations, and sustainable development.

3. THE ECONOMIC AND BUSINESS PERSPECTIVE AND THE CHURCH

The Roman Catholic Church in Poland played a significant role in the political and social transformations of the late 20th century. The Solidarity social movement drew inspiration from the teachings of the Pope John Paul II. The anti-communist opposition was linked to the struggle for Poland's freedom and the dignity of human labor, combined with the social teaching of the Church. After World War II, this religious institution was deemed by the then authorities as the most dangerous ideological opponent, which resulted in repression and persecution. The situation changed dramatically on October 16, 1978, when Karol Wojtyła became the Pope.

Shortly thereafter, in August 1980, strikes broke out, initiating a phase of struggle for the right to a dignified life, civil rights, and workers' rights. The striking workers referred to the teachings of the Church and the Pope. The signing of the agreements on August 31, 1980 in Gdańsk by Lech Wałęsa with a pen with a color photograph of the Pope John Paul II inside proved symbolic.

The topic of the convergence of liberalism and Catholicism seems important in the context of Poland's systemic changes, social, and political transformations since 1989. It is indisputable that various groups within Polish Catholicism responded to the changing reality in their own unique and distinct ways (Gowin, 1995). In the 1990s, Catholic groups manifesting "open attitudes" did not shy away from presenting a variety of views and opinions – including liberal ones – in their pages (Gowin, 1995). However, a current of closed Catholicism emerged, dominated by hostility, a simplified, and stereotypical perception of liberal principles, values, and attitudes (Gowin, 1995).

As Krzysztof Kietliński rightly noted (Kietliński, 2005):

In contemporary Poland, and probably also in other countries in the region undergoing economic and social transformation, the understanding of the essence of capitalism seems too often inadequate – in the spirit of 'Manchester capitalism' and 'social Darwinism.' The problem also seems to lie in the fact that a significant number of priests whose voices are heard in public either don't speak on social issues at all, or their views are very typical of a generation raised on Korwin-style "economic dogmas".

Many Catholics today are unsure what the Church in Poland actually thinks about socio-economic issues. Some Catholics even demand that "the Church stay out of the economy" (just as during the communist era, it was demanded that "the Church stay out of politics"). Others argue that "the Church supports the free market".

One of the few clergymen, Jacek Gniadek, a Divine Word Missionary from Zambia, previously worked in developing countries (Congo, Botswana, and Liberia), wrote the work "Divine and Human Economy – Free Market Sermons". The book is a refutation of socialist and bureaucratic models. In his homilies, he argues that an entrepreneur can be a good Catholic, living and acting in accordance with the teachings of the Gospel and God's commandments. Gniadek writes that God expects his followers to work and be thrifty, and that earning money and the desire for freedom are not inconsistent with humanity's mission on Earth.

In turn, the pastor of business people, Father Jacek Stryczek, specializing in Church PR and corporate social responsibility, issued an ironic appeal to Polish entrepreneurs in 2015, which he delivered during a demonstration in front of the Tax Office in Krakow:

I wish everyone were well. And you probably would too... That's why I appeal to you, dear Polish entrepreneur... You probably thought you were good. That's not true. You're bad. And bad in many ways. Perhaps you employ people, and on legal, but “junk” contracts. Perhaps you don't share your salary with your employees, and on top of that – horror of horrors – you might be rich, or at risk of becoming rich! Therefore, I appeal to your conscience: close your business, if you have one. Close it. Become unemployed and place yourself under the care of the state. Only then will you have a chance to become a good person again. After all, the ideal Poland would be devoid of bad people who should be publicly stigmatized. I imagine an ideal Poland as a country devoid of entrepreneurs.

When as many people as possible are unemployed and can confidently count on government support, then things will be best. Then you'll be able to count on kind words and compassion.

Therefore, I summarize my program for Poland in four postulates:

1. If you own a business, close it as soon as possible.
2. If you were planning to start a business, you sinned in your mind.
3. If you earn well, quit immediately to avoid blocking the position for others.
4. If you are studying, working on yourself, and are afraid that you will one day earn well, turn back from your evil path. Father Stryczek commented on the surrounding reality for a financial portal:

We live in some Catholic-Marxist country where we're constantly told that Jesus said you should love the poor, and Marx that you should hate the rich. There's nothing immoral about a bank president earning 36,000 PLN a day. There's also nothing immoral about his employees earning several hundred times less. If employees are not doing well, they should change jobs, and if customers are offended that the president earns too much, they should change banks. Jesus didn't command sharing at all. That's a myth. That's Catholic-Marxism, a collection of stereotypes that are used to create a religion. Jesus didn't comment on income sharing. He helped the poor, but he had many rich friends to whom he didn't say, 'Hey, you have too much, share' (Stryczek, 2016, March 28).

4. BETWEEN THE IDEAS OF FREEDOM AND ENSLAVEMENT

In turn, Dominican Father Maciej Zięba, author of numerous freedom-related publications, expert on the underground Solidarity movement, presenter of, among others, the lecture “Ethics of Economic Life” at the Poznań University of Economics and recipient of the Atlantic Council Freedom Award, noted that:

The issue of freedom is a very important element of Christianity – the concept of love and the concept of sin presuppose freedom. The Greeks

were ruled by Ananke, the Romans by fate. In Islam, there is kismet. And we are “Christ set free for freedom” (Strzelczyk, 2016, October 2).

He proposed a solution for Poland – adopting the “third way”, the project of ordoliberalism, a socio-political and economic movement put into practice during the post-war reconstruction of Western Germany. Authors include Wilhelm Röpke (philosopher), Walter Eucken (economist), and Franz Böhm (lawyer). Selected views of ordoliberalism boil down to the following (Zięba, 2016):

- The ideal is the *ordo universi*, adopted from St. Thomas, the idea of a natural order intended by God and created by humans.
- There must be spheres free from the market: the sphere of community, the sphere of self-sufficiency, the sphere of small-scale everyday relationships, the sphere of the state and the planned economy.
- Economics must be placed under the vigilant control of philosophers, sociologists, responsible politicians, and even clergy. Placing economics in the hands of economists alone (and especially neoliberals) is as dangerous and risky as giving all military power to generals.
- Only a free economy can be truly social, effectively recognizing real social needs and then responding to them. At the same time, however, it must be part of a higher-order structure that takes into account the personal character of the human person and the various dimensions of social life.
- The fundamental values on which the state order is based include personalism, solidarity, and subsidiarity, which allow for overcoming the tension between freedom and equality.

It is also worth considering a figure like Father Professor Józef Tischner, who taught the ethics of solidarity and explained to his compatriots the meaning of concepts (Tischner, 1989) such as solidarity, community, dialogue, work, exploitation, suffering, democracy, socialism, revolution, domination, management, and the enemy. He argued that communism cannot earn its own living. It can only take what belongs to others and distribute it (Michnik, Tischner, Żakowski, 1995). Tischner was a professor at the Pontifical Academy of Theology and a Knight of the Order of the White Eagle. He was also politically involved, appearing in a commercial for the Liberal Democratic Congress and serving on the program council of the Freedom Union.

In his reflections, he devoted considerable attention to the popularization of the term *homo sovieticus* (Latin for “Soviet man”). In the USSR, this term referred to the next stage in the evolution of *Homo sapiens*, shaped by the success of the Marxist social experiment (Heller, 1989). The concept also began to function as a description of the ongoing demoralization of communist society. In 1982, Russian writer and émigré sociologist Alexander Zinoviev wrote a book under this title, combining accounts and an attempt to analyze the mentality of Russian émigrés in France “tainted” by communism. According to them, the *Homo sovieticus* mentality can be characterized by the following traits (Wdowiak, 2006, November 5):

- a person subordinated to the collective (party organization),
- their attitude is characterized by a flight from freedom and responsibility, and opportunism,
- aggression towards the weaker, subservience towards the stronger,
- lack of independent thought and action,

- expectation that “someone else will do something”,
- intellectually enslaved,
- devoid of personality and dignity,
- completely subordinated to authority,
- isolation from world culture, created by the Soviet Union's restrictions on travel abroad and strict censorship of information in the media (as well as the ubiquity of propaganda),
- lack of respect for common property and a tendency to engage in petty theft in the workplace, both for personal use and for profit, as the popular song says, “Everything belongs to the collective farm, everything belongs to me” (“Все вокруг колхозное, все вокруг мое”) or “One bag for the truck, one bag for yourself” (мешок – в кузов, мешок себе) suggests.

Characteristics of Homo sovieticus according to Tischner (Miszalska, 1998):

- Mindless collectivism, deconstruction of moral bonds, social schizophrenia, cynicism, conformism, and self-serving.
- A client of communism, enslaved by the communist system, he fed on the goods communism offered him. Three values were particularly important to him: work, participation in power, and a sense of self-dignity. Owing these to communism, he became addicted to communism.
- Homo sovieticus sees no difference between his own self-interest and the common good. And that's why he can set fire to a cathedral just to scramble eggs over it.

After the homo sovieticus stage, homo solidaritus came (Tischner, 2005, Nierodka, 2012):

Homo sovieticus is violently roused from his peaceful slumber. Suddenly, freedom is thrust into his unprepared arms. He experiences shock. He loses his sense of stability. There is a lack of work around him that would provide not only a living but also identification. The lost individual loses his point of reference, because: “only yesterday homo sovieticus was socialized, and today he belongs to no one”.

Tischner devotes much space in his works to liberalism (Stawrowski, 2005, 2010, Tischner, 1996, Tischner, 2003, Tischner, Żakowski 2017):

- “People are born as slaves and only then must they laboriously earn their freedom. Humans are utterly dependent – a child on their parents, an adult on their health, the weather, their superiors”.
- Man, born into the world, does not know what freedom is. But he can learn when he discovers freedom embodied in his neighbor.
- God is a liberal. His greatness and generosity lie precisely in being liberal. It is He who makes the sun shine on the good and the bad.
- Being free is impossible without accepting the freedom of others. As Mill wrote in his essay “On Liberty”, “the limit of my freedom is the freedom of another man”. Father Zięba noted that in the Pope's statements “socialists, Christian democrats, and very moderate liberals can see themselves reflected”. Artur Domosławski, who mainly deals with Latin America, anti-globalization movements, and religious issues, and author of the book “Christ Without a Rifle. On the Pontificate of John Paul” (Domosławski, 1999), addressed the Pope and his relationship with capitalism

(Domosławski, 2011): “One of the most interesting questions concerns the Pope's attitude toward capitalism. Was he a liberal, a social democrat, or perhaps an alter-globalist?” He believes that the encyclicals “*Laborem exercens*” and “*Sollicitudo rei socialis*” from the first decade of his pontificate were social democratic in spirit, and after the fall of communism, the free market was recognized in the encyclical “*Centesimus annus*”. Although it is in “*Centesimus Annus*” that strong words are said, saying that democracy without values easily turns into open or camouflaged totalitarianism.

Writer Tomasz Piątek, in turn, resents the fact that John Paul II legitimized the post-1989 changes, along with their social costs (Piątek, 2011). He also criticizes him for supporting anti-communist dictatorships in South America and combating “liberation theology”. Piątek notes that while Solidarity, a trade union, fought against communism, papal encyclicals valorized workers' rights, while after the fall of communism, there was a shift toward support for neoliberalism.

Reading John Paul II's thoughts and message, we see, on the one hand, a positive attitude (Przewodnik po moralnym kapitalizmie. *Bank.pl* (2015, November 30):

- The free market can be a place of Christian engagement and witness.
- Economic liberalism, which is also de facto supported by a recognition of relative human autonomy, the development of human freedom, and a call for personal responsibility.
- Freedom is also the freedom “to do something”. Montesquieu can be cited here, who also claimed that “freedom is a good that gives access to other goods”.
- Both within individual nations and in international relations, the free market is the most effective tool for utilizing resources and meeting needs.

On the other hand, there are also criticisms and warnings:

- Capitalism is acceptable only if it is understood as a system that supports free enterprise and human development.
- Under capitalism, man ceases to be an end and becomes a means. And that the economy, when it ceases to serve man, can no longer be justified from the perspective of the Church's teaching.
- An approach to work in which man becomes a tool of production, consequently losing his personal dignity is associated with the situation of unemployment is In practice, this phenomenon takes the form of exploitation.
- To employers: Do not be deceived by the vision of immediate profit at the expense of others. Beware of all temptations to exploit. It can happen that, despite sound economic analysis, people, who constitute a company's most valuable asset, are humiliated and their dignity insulted. This is not only morally unacceptable but, in the long run, will also negatively impact the company's economic effectiveness.

Michał Łuczewski, sociologist and program director of the Center for Thought of John Paul II, undertook an assessment of John Paul II and the systemic changes in the country in the context of papal pilgrimages. The first pilgrimage after regaining freedom in 1991 proved to be extremely significant. It was no coincidence that it was held under the motto “Thank God. Do not quench the Spirit”. This meant that the changes were positive, but the real challenges were just beginning (Woś, 2014, April 19).

His assessment of the pilgrimage includes the following observations:

- When capitalism was emerging, the main theme of this visit was the Ten Commandments. And there was a prevailing belief, for example, that the first million... had to be stolen.
- He kept repeating that stealing is forbidden. And it doesn't matter whether we are building a free market or something else. He repeated the commandment "You shall not covet" and derived from it a sharp critique of consumerism. He showed that capitalism operates precisely through the mechanism of desire. That it is a completely new trap.

In turn, during his 1999 pilgrimage, John Paul II said that "we can be grateful to Divine Providence for everything we have achieved". This might have given the impression that the pope had come to terms with our social reality, that he had finally given up. But it's not that simple. In 2002, during his last visit to Poland, he returned to the shadows of the Polish transformation, for example during Mass in Krakow, when he spoke of the "noisy propaganda of liberalism".

When discussing attempts to combine elements of liberalism with Catholicism in Poland, it is essential to mention the secular liberal Mirosław Dzielski (*Wiara Sokratesa*, 1977). As early as the 1970s, his concept sought (Szacki, 1994):

- the implementation of a system in which individuals would be able to live responsibly, exercising their freedom,
- limiting the role of the state in social life and introducing a market economy,
- the possibility of using private property.

He represented Christian liberalism (a combination of religion, morality, and freedom), which he expressed with the following suggestions:

- Entrepreneurship must be based on ethos, otherwise it will rely on dishonest machinations.
- Without living in harmony with God's law and conscience, any system can degenerate into tyranny and the rule of lawlessness.
- The opposite of totalitarianism is freedom, not democracy, as many anti-communists believed.

5. CONCLUSIONS

Francis Fukuyama also points out that "a market society requires a certain moral culture – a network of moral norms that political or economic institutions cannot build. Market mechanisms will not ensure the complete success of any society. We need values" (Fukuyama, 2000).

To the question, "What are God's economic views?" Michał Łuczewski replied:

Economics from the Church's perspective is a secondary matter. When the Church writes and teaches about economics, it usually has in mind the economics of salvation. This implies God's management of society and history in a way that is intended to lead humanity to reconciliation with itself and with Him (Woś, 2014, April 19).

Father Maciej Zięba, in response to the question, "What is God's favorite economic system?" concluded:

There is a certain set of good systems, and there is no single one that is optimal for all. The Social Teaching of the Church states that we will not build the Kingdom of God on Earth, because the Kingdom of God is not a system, but a person, who is Jesus Christ. It will come at the fulfillment of time, and then economics and politics will finally disappear completely (Woś, 2014, April 19).

In summary, religion and economic security remain deeply intertwined; religion provides an ethical framework for economic practices, religious communities support individuals in the face of economic threats, and different religious traditions shape different models of economic management and social security. It is worth examining both the historical analysis (the role of religion in the emergence of capitalism) and the current challenges (ethical finance, social justice, global crises).

The author has read and agreed to the published version of the manuscript.

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THE NEO-BAROQUE CHURCH IN FRYSZTAK AND ITS ARCHITECTURAL AND STYLISTIC ANALYSIS IN VIEW OF THE TOWN'S HISTORY AND URBAN PLAN: A CASE STUDY

The article presents the history of Frysztak (from the mid-14th century to the 1930s it was a town, today a small village in the Strzyżów district, in the Podkarpackie Province), focusing on issues related to the development and transformation of its urban layout over the centuries, as well as the origins and history of the parish and the churches built there. The last of these, preserved to this day, dates from the 1920s and is an example of a neo-baroque building with neo-Gothic elements. An important part of the article is the architectural and stylistic characterisation of this church, based on in situ research. This analysis has allowed us to identify similarities and differences between this structure and other churches of the historicist period in south-eastern Poland, as well as to show the originality of this temple, also in comparison with other works of its designer, Stanisław Majerski, who was one of the most prominent representatives of historicism in this area.

Keywords: Frysztak – history, Frysztak – parish, sacred architecture, historicist architecture, neo-baroque, Stanisław Majerski.

1. INTRODUCTION

The history of Frysztak dates back to the 14th century. For several centuries, it was an important centre located on the international route leading to southern Europe, but over time it lost its significance. Today, it is a small village in the Podkarpackie province, in the Strzyżów district. The spatial layout of its central part, although somewhat blurred, indicates its urban origins. The village is located on a high hill, on the Rzeszów–Krosno/Jasło route (which today bypasses Frysztak from the east, but for centuries ran

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through its centre) and attracts attention with its dominant feature, a church with a high tower, built in the 1920s.

2. LITERATURE REVIEW

The literature on the church and parish in Frysztak and the village itself is not very extensive, most often consisting of information in general or collective studies, although three monographs on various aspects of the village should be noted. The most comprehensive is the monograph by Barbara Lubojemska (Lubojemska, 2001), which, however, focusses on socioeconomic issues, discussing, among other things, demography, crafts, trade, culture, social organisations, and natural disasters, while paying little attention to the spatial layout of the town and the church itself. The author provides information on the history of the parish during World War II, while the church is mainly presented in photographs. There are also two monographs related exactly to the parish and the church. The first of these (Szopa, 2024) focusses on liturgical and pastoral issues, but the author also refers to issues related to the population and territory of the parish, provides factual information about both churches (the older one, which no longer exists, and the latter one, which has been preserved to this day), and basic information about their architecture. The publication on the church (Petrykowski, 2024) is an album but contains extensive factual information related to the stages of construction of the neo-baroque temple and presents a drawing of its design by Stanisław Majerski.

An important study on the history and spatial development of the town is the unpublished historical and urban study of Frysztak (Sapeta, Gorczak, 1999) and on the church itself: the architectural and civil engineering monument records chart, the so-called white chart (Kuś, 2007).

One of the most important overview studies on urban planning issues that includes Frysztak is J. Malczewski's monograph analysing the spatial layout of towns in south-eastern Poland in the Middle Ages and at the beginning of the 16th century, including Frysztak (Malczewski, 2006). Basic facts from the history of the parish are given in *Schematyzm Diecezji Rzeszowskiej* (Sądel, Buczek, Mierzwa, 2010), and information about the older wooden church is mentioned in a note in *Słownik Geograficzny Królestwa Polskiego* [The Geographical Dictionary of the Kingdom of Poland] (Frysztak, 1881). Information about the history of the village, as well as a mention of the chronology of the older (no longer existing) church and a discussion of the furnishings of the existing church, can be found in a note in *Katalog Zabytków Sztuki w Polsce* [Catalogue of Art Monuments in Poland] (Frysztak, 1978).

Frysztak and its monuments, including the church, are also the subject of guidebooks (e.g., Pelczar, Fałara, 2004; Bogaczyk, 2002; Lawera, Bata, 1999). Finally, it is worth mentioning the website of the parish in Frysztak, which provides the most important factual information about the history of the town and the church, focussing, however, on a detailed discussion of the renovation work carried out after 2004 (History, n.d.).

3. METHODOLOGY

The aim of this article is to present an overview of the spatial development of Frysztak, with particular emphasis on the church as a dominant element in the urban space, as well as an architectural and stylistic analysis of the church against the backdrop of historicist architecture. Due to the lack of detail in the available studies on the architecture of the

Frysztak church, the data collected here are of great cognitive value and may be used in comparative analyses in further research.

The research methods used here include archival and bibliographic research, analysis of collected sources and studies, in situ research, architectural analysis, and comparative analysis of the objects that formed the basis of the synthesis and conclusion. In situ research was conducted in relation to the church, while in relation to the history of the city and its spatial development, a literature search was carried out, supplemented by an analysis of historical cartography.

The architectural and stylistic analysis of the church, carried out primarily on the basis of the authors' own field research and the photographic documentation made on this occasion, allowed for the characterisation of the essential features of the church in Frysztak and for a preliminary comparison with other buildings in Galicia. The authors made this comparison using their own observations and on the basis of already collected (but not yet published) research material on historicist churches in this area.

4. HISTORY OF THE TOWN AND ITS SPATIAL PLAN

The town of Frysztak was located on the part of the settlement area of an older village named Kobyle. In 1352, Casimir the Great allowed Krystyn of Sobniów to establish this village under Magdeburg law, and 60 łans were allocated for settlement, 6 of which were given to the village administrator (Buczowski, 1980). On the lands of Kobyle village, Handzlin RENCH, with the king's permission, established the town of Wisłok in 1366, stretching from Karczowiska Pogorzały to Łączki Poręby, with an endowment of 200 Franconian łans. Kobyle became a suburb of the town, which soon changed its name to Frysztak (Malczewski, 2006). Elżbieta Łokietkówna, in exchange for part of Jasło, gave the town and its suburb to the abbot of Koprzywnica, Frysztak became the centre of monastic estates, and Władysław Jagiełło allowed the establishment of a supreme court of German law here (Buczowski, 1980).

The town with its extensive market square was built on a high hill, naturally defensible, on an important communication route. The road from Hungary through the Dukla Pass to Cracow led through the Wisłok Valley via Frysztak and Pilzno, bypassing Ropczyce, and continued along the Lviv–Cracow route. It was a very old road, guarded by Kamieniec Castle (in Odrzykoń), which already existed in 1348, while the privilege granted by Casimir IV Jagiellon in 1451 allowed butchers to drive oxen through Krosno and Frysztak. The route to Mazovia via Sandomierz also passed through Frysztak (Fastnacht, 2007).

The natural defensive advantages of the location where Frysztak was established influenced the layout of the fortifications. It was sufficient to build only wooden and earthen ramparts, and access to the town from the south was impeded by the fortified mayor's manor (Kiryk, 1978; Bosak A., Bosak B., 2002). The town's defences were reinforced by the Twierdza fortress located in a neighbouring village, south-east of the town, in the valley of the Glinnik stream. It was built during the 15th century and its construction is attributed to refugees from Hungary (Kotula, 1969; Książek, 1973), and was intended to defend the inhabitants against foreign troops and Tatars.

The spatial arrangement of the Frysztak market square, with minor changes in the southern and northern frontages caused by the relocation of buildings, has survived to this day. Two streets lead out of it. In its centre, there was a wooden town hall and merchant stalls, surrounded by blocks of buildings (Figure 1, 2).



Figure 1. The location of Frysztak and its spatial layout on a map of the end of the 18th century

Source: First military survey of the Habsburg Empire (Originalaufnahme..., 1779–1783).



Figure 2. The location of Frysztak and its spatial layout on a map of the mid-19th century

Source: Second military survey of the Habsburg Empire (Übersicht..., 1861–1864).

The original rectangular market square measured 131.85 m x 65.93 m (2:1) and covered an area of 0.87 ha, while the town covered a total area of 6.3 ha (Malczewski, 2006). The stalls and the wooden town hall have not survived to the present day. On both sides of the longer sides of the market square, there were streets that were part of the old route and the third road that ran from the south along the shorter frontage and led to the rear of the market buildings. The visible deformation of the line of these buildings was caused by the gradual sliding of the slope, which reduced the length of the plots (Malczewski, 2006).

The settlement plot had a significant impact on the shape of the town plan. Usually, in addition to a house, such a plot also included a workshop, and in some towns fragments of the original plans have been preserved. The plots in Frysztak were irregular in shape, probably influenced by the terrain. The depth of the plots was obscured by new buildings

and a newly laid out street connecting them, which in turn was located on long plots and did not connect to farmland due to the presence of a cliff. Measurements of the width of the plots by the cadastral plan of 1851 indicate that most of them were approximately 8.8 m wide and 16.6 m long (Malczewski, 2006). The depth of the plots was influenced by steep slopes and the line of the fortifications. In Frysztak, as in other neighbouring towns, the depth was often around 66 m, but most plots were closer to 48 m in depth (Malczewski, 2006).

5. HISTORY OF THE CHURCH AND PARISH

At the beginning of the settlement, the church plot was measured out. In Frysztak, the place for the church was designated behind the northern frontage of the town, at the north-western entrance (Malczewski, 2006). The first church was built in 1374 or slightly later, funded by the Cistercians from Koprzywnica (Wyrozumski, 1980; Malczewski, 2006), the second (perhaps the original, but renovated and rebuilt) was built in the mid-15th century, funded by Mikołaj Frysztacki, the owner of the town, who died around 1500 (Wyrozumski, 1980; Malczewski, 2006). The first known description of the temple dates back to the end of the 16th century, when it was already dedicated to the Nativity of the Blessed Virgin Mary. We know about it from the episcopal visitation of Krzysztof Kazimierski in 1596. It was a wooden structure with a masonry sacristy, covered with a shingle roof, and furnished with four altars, one of which was located outside, in the portico (Malczewski, 2006; Szopa 2024).

The parish in Frysztak was established around 1277 (Sądel, Buczek, Mierzwa, 2010). *Słownik Geograficzny Królestwa Polskiego* does not provide the date of construction and consecration of the temple and indicates only the year 1537 as the date of the first mention of the parish (Frysztak, 1881). The wooden church, built in 1445 or 1442 and dedicated to the Nativity of the Blessed Virgin Mary (Frysztak, 1978), was restored in 1783 and 1859 and demolished in 1924 or 1923 (Sądel, Buczek, Mierzwa, 2010; Szopa 2024; Frysztak, 1978; Kuś, 2007) and the material was used to build a parish house. The masonry church that still stands today was built between 1924 and 1927 according to a design by Stanisław Majerski (Frysztak, 1978; Szopa 2024; Kuś, 2007). Its construction was initiated by a local parish priest Wojciech Blajer, but some efforts, interrupted by the First World War, had been undertaken by the previous parish priest Franciszek Prusak (Kuś, 2007). The construction work was supervised by Stanisław Lejpras and Jan Sobol, and the church floor, designed by the town owner, Edmund Bohaczek, was put in 1931 by the Caden company from Krakow (Szopa 2024; Kuś, 2007). The temple was consecrated in 1927 by Dean Stanisław Kwieciński and then, in 1938, by the suffragan bishop of Przemyśl, Wojciech Tomaka (Sądel, Buczek, Mierzwa, 2010). The church suffered damage during World War II (1944), including the destruction of the roof covering and stained glass windows, but renovation work began while the front was still active. The roof tiles were replaced, new stained glass windows were installed and the interior was renovated in 1980 with a new polychrome decoration by Stanisław Jakubczyk, which replaced the previous work by Stanisław Szmuc (Kuś, 2007). To this day, ongoing repairs, renovations, and conservation work are carried out.

6. ARCHITECTURAL ANALYSIS OF THE CHURCH

As mentioned above, this part of the study is based on in-situ research conducted by the authors, including photographic documentation. We refer to other sources (including the architectural and civil engineering monument records chart) only in some specific cases (marked in the text), usually when our findings do not correspond to the information provided in the existing literature on the subject.

The temple, with its neo-baroque features, but also neo-Gothic elements (ribbed vaulting), was located in the centre of the town on a prominent hill by the main road. The area was surrounded by a stone wall with two gates, accessed by high steps, and the area around the church was paved with 'trylinka' ('Tryliński's paving block'); parish buildings stand in the vicinity of the church. According to M. Kuś, the designer gave the body of the church the form of a pseudobasilica (Kuś, 2007), but it should be emphasised that it is an incorrect observation. From the outside the building resembles a classic basilica with slit windows placed in the walls of the nave above the mono-pitched roofs of the aisles). Inside, the same height of the nave and aisles suggests a hall-type body (Figure 3).



Figure 3. The church in Frysztak. Outside and inside view

Source: photo by M. Zub.

The church was built of solid bricks with lime mortar (Kuś, 2007), the structure was erected on a plinth covered with rectangular sandstone slabs, while the walls up to the level of the window arches were lined with irregular slabs, also made of sandstone. The church is a non-oriented building with the chancel facing south-east, but the author of the architectural and civil engineering monument records chart (Kuś, 2007) places it either from the south-west (in the text) or from the south (on the plan, Figure 4); both of these indications are incorrect. On both sides of the chancel, which is lower than the body, there are square annexes, and the north-west façade is formed by a tower covered with a helmet. The tower is a three-storey, circular, slightly elliptical structure, tapering towards the top, surrounded in its lower part by a colonnade with a mono-pitched roof covered with painted sheeting. Two columns with square-annular capitals, placed on low square pedestals with a sandstone ring, topped with pinnacles in the form of finials, support the arched entrance element with a sandstone cross; the colonnade consists of similar columns without pinnacle finials.

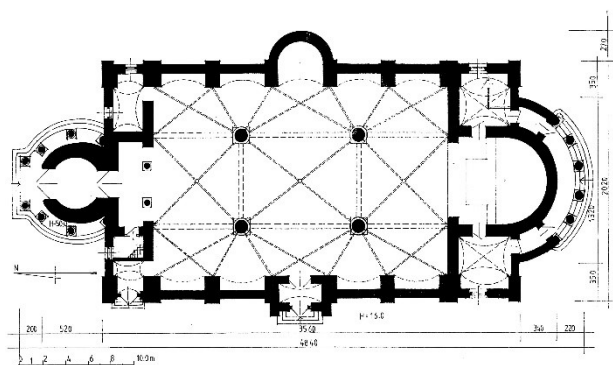


Figure 4. Plan of the church in Frysztak by M. Kuś

Source: Architectural and civil engineering monument records chart (Kuś, 2007).

In the tower wall, there is a rectangular entrance opening with oak doors with blacksmith fittings, lined with sandstone blocks all around. Above the mono-pitched roof of the colonnade and the narrow sandstone band above it, there is a semicircular window in a metal frame surrounded by plasterwork. The upper parts of the tower are lit by narrow rectangular windows with sandstone mono-pitched sills. On the volute walls of the body adjacent to the tower, Stanisław Majerski designed small lighting openings, rectangular with mono-pitched window sills in the lower part and standing elliptical in the upper part, and placed statues of saints on the massive external columns. The tower is covered with two bell-shaped domes covered with sheet metal, separated by a low, sheet-metal pseudolanter with horizontal elliptical openings. Under the lower dome, the larger one, standing on a moulded cornice, there is a blind colonnade with engaged columns similar to those at the entrance and in the presbytery colonnade, forming a second pseudolanter. Between the columns, there are four semicircular windows that interrupt the cornice on which the colonnade stands. The entire tower is topped by a metal cross with a massive moulded vertical beam.

The body of the temple, buttressed by lesenes transitioning into semicircular arcades, does not have a transept – as M. Kuś incorrectly claims (Kuś, 2007), but in its middle part, on the eastern side, there is an apsidal chapel, and opposite it (on the western side) there is a rectangular narthex accessible by a few steps. The interior is divided into three bays, the outer ones in the nave being square in plan and the middle one rectangular in plan. On the façade side, there is a narrow space occupied on the axis of the nave by the music choir, and on the sides by annexes (on the west side, there are two rooms, the inner one communicating with the choir loft and the upper floors of the tower, and the outer one with the interior of the church). The structure is decorated with a plinth covered with rectangular stone slabs, above which, up to the level of the windows closing, it is lined with irregular sandstone slabs. The walls of the nave and aisles are decorated with plastered moulded cornices. Above the mono-pitched roofs of the side aisles, there are semicircular blinds with slit openings, whereas on the sides of the body, the designer added volute gables with pinnacles. In the central part of the ridge, a neo-baroque bell tower was placed, with two circular lanterns with semicircular arcaded openings, the tower is covered with small-mesh metal grilles. The lower one, taller and wider, was covered with a bell-shaped roof covered with sheet metal, as was the upper one, smaller, which is crowned with a metal cross with

a small ball. The facade of the eastern chapel is decorated in a similar way to the body and is covered with a gable roof with a semi-conical closure, covered with sheet metal. It is illuminated by tall windows with semicircular closures, narrower than those in the side aisles, with stained glass windows featuring geometric and animal motifs (deer and eagle). We mentioned above the western porch, which is risalit, with an arched, strongly moulded roof covered with sheet metal. The roof is topped with a cross carried by two four-sided columns with pinnacles in the form of finials. Communication with the western aisle is provided by oak doors with blacksmith fittings, preceded by stairs and set in a sandstone frame, while the tympanum features an oval blind oculus in a white plaster frame. Above the vestibule, between the lesenes, there is another oculus in a white plaster frame with a stained glass window in a metal frame, placed in a semicircular recess.

Communication between the nave and aisles is provided by large semicircular arcades (the central one being wider and higher than the adjacent ones), supported by circular ring-shaped pillars with square moulded capitals and two-part bases, square at the bottom and ring-shaped above. The walls of the side aisles are divided by wall pillars with outwardly protruding plinths, which above the windows turn into arches, creating deep recesses arches polychromed in the intradorsal. The structural issues and detailed characteristics of the architectural elements of the nave are presented in Table 1. Here, we point out that the interior of the nave is vaulted with a ribbed vault (a neo-Gothic element), and not, as M. Kuś incorrectly indicates, with a barrel vault with transverse arches (Kuś, 2007).

Table 1. Church in Frysztak. Characteristics of the nave

Architectural elements	Description
Vault of the nave	ribbed vault; M. Kuś (2007) describes it incorrectly as a barrel vault with transverse arches
Vault of the aisles	ribbed vaults of various fields with keystones
Construction and roofing of the nave	frame roof truss, hanger truss with rafters (Kuś, 2007), gable roof covered with 'Dobrzechów' interlocking tiles with sheet metal flashings
Construction and roofing of the aisles	mono-pitched roof covered with galvanised sheet metal
Wall decorations	the original polychrome was made by Stanisław Szmuc, the new one in 1980 by Stanisław Jakóbczyk (Kuś, 2007), with geometric and figural elements in the arcade arches
Vault decorations	in the nave, gilding on the ribs and figural elements with biblical motifs in the corners of the vaulted fields; in the aisles, gilding on the ribs
Windows of the nave	semicircular blinds with slotted openings visible from the outside do not illuminate the interior of the nave (located above the vault)
Windows of the aisles	high, with a semicircular plaster closure, with sandstone mono-pitched window sills, in metal frames with horizontal divisions
Stained glass windows	the stained glass windows of 1927, installed by the Żeleński company from Cracow, destroyed during World War II, have been replaced (Kuś, 2007), currently featuring figural motifs with biblical figures

Source: own study based on in-situ research, some information according to M. Kuś (2007).

The not-buttressed chancel, with a single bay and a width equal to that of the nave, directed towards the south-east, is surrounded on the outside by a semicircular colonnade

consisting of four circular columns and two engaged columns at the ends. The columns with two-part capitals with a square abacus and a ring-shaped echinus stand on four-sided point bases with rings; the engaged columns have the same elements. The colonnade is accessible via a few steps and is topped with a moulded plaster cornice. The square annexes flanking the chancel, serving as a sacristy and storage room, are covered with sheet metal pent roofs, and their reinforced corners are topped with pinnacles in the form of finials. The closure of the chancel is clad on the outside with irregular sand-stone tiles, and above the pent roof and under the cornice there are similar strips of cladding, between which a plastered field has been left. The chancel was built on a plinth covered with regular sandstone slabs and is crowned with moulded cornices.

The detailed architectural characteristics of the chancel are presented in Table 2. It should be added that the adjacent annexes are covered with a Czech cap (Kuś, 2007), and their communication with the chancel is ensured by rectangular openings with glazed doors in a decorated marble frame, and they are illuminated by rectangular windows with contemporary metal grilles depicting Christ Crucified and small oculi on their southern sloping walls.

Table 2. Church in Frysztak. Characteristics of the chancel

Architectural elements	Description
Top	none
Vault	barrel vault, conch closure
Construction and roofing	above the chancel, a gable roof, with a semi-conical closure covered with sheet metal, an external colonnade with a mono-pitched roof covered with sheet metal
Chancel arch	large semicircular arcade
Wall decorations	polychrome painting with individual biblical scenes
Vault decorations	geometric motifs
Windows	on the sides, oval horizontal window openings in white plaster surrounds, with metal frames divided into four sections
Stained glass windows	the stained glass windows of 1927, installed by the Źeleński company from Cracow, destroyed during World War II, have been replaced (Kuś, 2007), currently geometric patterns with biblical symbols

Source: own study based on in-situ research, some information according to M. Kuś (2007).

Finally, let us mention the church furnishings, among which the Regency-style main altar, funded by parish priest Andrzej Ankwicz and renovated around 1784 thanks to the efforts of parish priest Michał Duvall (Frysztak, 1978), as well as the neo-baroque confessionals and pews, deserve special attention.

7. CONCLUSIONS

The history of Frysztak's spatial development allows it to be described as a town representative of a group of small towns in south-eastern Poland, with a typical course of development stages and administrative status, from its location in the Middle Ages to the loss of its municipal rights in the 20th century. What distinguishes it is the development of buildings along the north-south axis and towards the west, conditioned by the terrain. The

steep slope with significant defensive values prevented the town from expanding to the east. This condition also influenced the location of the church, which is closely linked to the history and development of the town. This development required the construction of a larger church, and the arrangement of the buildings did not allow for the construction of an oriented church.

As follows from the analysis presented above, the church in Frysztak represents, as is quite common in historicist buildings, elements taken from various stylistic forms. Historicism did not develop its own forms but drew on centuries-old architectural traditions, both in building shapes and plans (basilica, aisleless and hall churches, pseudo-basilica and stepped hall churches, with or without a transept), as well as structural and decorative elements, resulting in a lack of stylistic uniformity and eclecticism in historicist architecture. Designers freely combined elements derived from different styles and eras, so when attempting to classify buildings, it is better to take into account their dominant features. The distinguishing features of Gothic (and neo-Gothic) architecture were structural elements: ribbed vaults, flying buttresses and buttresses, as well as pointed arches (not the most important, but commonly regarded as such). Barrel vaults with lunettes and conch vaults, as well as volute mouldings, should be treated as baroque (and neo-baroque) elements.

Neo-baroque elements dominate in Frysztak (apses, volute mouldings, oval and elliptical forms, moulded cornices, conch vaults), but the designer also used Gothic motifs, vaulting the temple with rib vaults. The body of the church is an original solution: from the outside, it has the form of a basilica, with windows (albeit very narrow ones) in the nave, which, however, do not illuminate the hall-like interior, but are placed above the vault. This solution is original both in comparison with other projects by Stanisław Majerski, discussed by M. Proksa in his analysis of the neo-Gothic churches of Przemyśl (Proksa, 2022), and in comparison with other historicist religious buildings in south-eastern Poland. Among these buildings, we do not know of (lack of?) a similar solution, but a slight analogy can be found in the slightly older church in Żeleźnikowa Wielka, built in 1912-1921 according to a design by Jan Sas Zubrzycki (Parafia, n.d.), where the side aisles of the basilica-style structure are deep chapels fully open to the central part of the temple.

All authors have read and agreed to the published version of the manuscript.

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COMMUNICATION IN THE AGE OF AI – THREAT OR OPPORTUNITY?

Artificial intelligence is becoming increasingly popular. It is decisively and aggressively entering almost every area of life. It is changing the current world order before our eyes, and it is not known when or where it will stop. These issues also concern communication researchers. How much does AI interfere with communication processes? Does it improve them or rather deform them? Will the appearance of artificial intelligence in communication processes always mean the risk of disinformation? It will be very difficult to find answers to most of these questions now, because the process of AI penetrating this sphere of life has certainly not ended yet. But we can already attempt the first summaries and speculations – to what extent the current shape of communication symbiosis with AI constitutes a threat and to what extent an opportunity. In the following article, the author puts forward the thesis that while threats cannot be avoided, the skillful use of AI in communication can be creative and constructive. It can be a milestone in the development of communication processes on many levels.

Keywords: artificial intelligence, communication, progress, danger, disinformation.

1. THE ESSENCE AND IMPORTANCE OF COMMUNICATION

A fundamental question to be discussed at the outset is the nature of communication, its role in the modern world and the functions it performs.

The concept of communication itself appeared in literature at the end of the 19th century, and since then it has undergone many iterations and evolutions. As communication has been described by different authors, it has been treated and understood in different ways. Most often, however, it has been identified with a situation, a transmission, a mechanism, a tool or a response. In the simplest terms, communication is a process whose purpose is the exchange of ideas, but also the sharing of knowledge, information and ideas. It is also important to emphasize that the process in question produces specific effects that are related to the use of different means (Sypniewska, 2015).

The word “communication” is derived from the Latin verb “communicare”, meaning “to make common, to unite, to communicate”, but also from the noun “communio,

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emphasizing” “commonness, combination, sense of connection”, and the adjective “communis”, meaning “common, universal, general”. Later, 'communication', as used in Latin, was adopted by modern languages and, from the 14th century onwards, took on a different context, becoming a phrase meaning 'entering into community', 'having relations with someone'. With the development of highways and roads, i.e. in the 16th century, the meaning of the word 'communication' changed again. This time it came to mean 'transmission and conveyance'. It should be stressed that the term 'communication' can have very different meanings depending on the scientific discipline. It has a different philosophical meaning, a different sociological meaning, and a different psychological meaning ().

It should be added that, since the 19th century, the concept of communication has referred to two contexts. On the one hand, it refers to the movement from one place to another by means of specific means of transport; on the other hand, it refers to the communication of living beings (implicitly, therefore, not only human beings but also animals), stressing that the latter can be transmitted by various channels. It can be direct (verbal and non-verbal) or indirect through writing, television, radio, telephone or the Internet. Depending on the degree of media involvement, a distinction can also be made between interpersonal communication, which takes place between individuals, and mass communication, which refers to collective entities (Bartosik-Purgat, 2018).

The literature emphasizes that interpersonal communication itself can take place at three levels (Frączek, 2012):

1. phatic level – these are casual conversations, most often between people who do not know each other very well;
2. instrumental level – where it is essential to reach agreement on an issue, even if the views of the individuals differ;
3. affective level – refers to a situation in which the communication process itself forces a deeper familiarity between the participants. The people communicating then reveal their emotions, but also their values, in order to get to know each other better.

Earlier it was said that communication is a process whose purpose is to exchange ideas, to share knowledge, information and ideas. It has also been stressed that it can have different effects depending on the use of appropriate means. Indeed, it should be noted that there are a number of factors that can make communication either effective or ineffective, the most important of which are: code, message, channel, noise and feedback (Sypniewska, 2015). A message is a coded message and occupies a central, pivotal position in the communication process between sender and receiver.

The channel is the path of the message between the sender and the receiver. Noise is interpreted as interference in the communication process. It can be either external – in which case it would be noise or an unfavorable air temperature – or internal – when it is influenced by the feelings of the participants in the communication process, such as headaches, fatigue, perceived anger, discomfort. We should also not forget semantic interference, when the sender uses a specific meaning in an inappropriate way. Feedback is the receiver's reaction to the message after it has been decoded. There are several types of feedback: direct, i.e. immediate, and indirect (in the case of mass and media communication) – delayed (Frączek, 2012).

It should not be forgotten that the communication process is also influenced by the context. The context refers to the conditions in which the process takes place. Naturally, a distinction should be made between the physical context, i.e. place, time, atmospheric

conditions; the cultural context, i.e. language, values, behavior, customs, religion; the historical context, i.e. past situations; and the psychological context, i.e. perceptions, attitudes, degree of formality between the participants in the communication (Bartosik-Purgat, 2018). Just as the context is important, so are the participants in the communication process. For this to happen, there must be both a sender and a receiver who play interchangeable roles. In the case of informal communication, the roles can be symmetrical (acquaintances, friends) or asymmetrical (e.g. parent and child). In formalized processes, on the other hand, the roles are not only explicitly defined but also asymmetrical (e.g. supervisor and subordinate). The people involved in the communication process usually differ in their attitudes towards others, gender and culture (Frączek, 2012).

For communication to take place, at least two entities must be involved: the sender and the receiver. The communication model itself is shown in Figure 1.

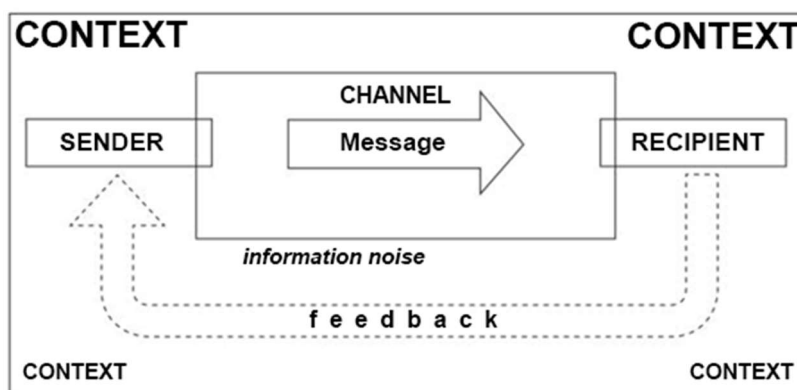


Figure 1: Communication process model

Source: [Bartosik-Purgat, M. (2020)].

As the figure shows, the communication process is complex and semantically structured. It cannot take place without at least two sides to the message, a formulated message and a channel through which it is articulated.

It is impossible not to agree that communication plays an extremely important role in virtually every area of life, both private and professional, but there seem to be some for which communication, the message sent, the reception, is particularly important because it influences the mass audience. One such field is journalism.

It should be emphasized that in socially responsible journalism it is information that is the basis of communication activities and has a significant impact on the formation of social bonds. It should be noted that the importance of information is also increased by the fact that it influences the formation of human personality, especially such areas as opinions and attitudes (Lepa, 2008). Therefore, if one considers that the provision of information, which is at the heart of communication, is so important for the formation of a society's worldview, it seems logical to conclude that reliability becomes crucial. This, in turn, raises the question: is reliability only possible if it is constituted by a human being? Is it only a human being who can be equipped with the tools of verification that make such research possible that can be considered credible? Is it only a human being who is able to maintain a valuable communication that is also convincing? Reflecting on these questions seems particularly

timely in the context of a reality in which artificial intelligence is increasingly influencing the way in which the rules of communication are formulated.

2. THE WORLD OF ARTIFICIAL INTELLIGENCE

Before examining the particular opportunities and risks of communicating and interacting in a world of artificial intelligence, it seems useful to consider what it is and why it is having such a major impact on the design of new media.

The literature emphasizes that artificial intelligence (AI) is computer programs that are capable of behaving in a way that could be called intelligent (in the sense in which it would be characteristic of humans). As early as the 1950s, the processes involved in the operation of artificial intelligence were described as “getting a machine to behave in a way that we would call intelligent if a human were to behave in that way”. In particular, the role of AI is to solve the problems that humans sometimes find troublesome. There are therefore a number of decision areas that AI will be responsible for. These include: automating capabilities attributed to human reasoning, especially decision making, problem solving and learning; reasoning, including perception, reasoning and action; taking actions that require human involvement and intelligence; solving problems that are effectively non-algorithmic, based on knowledge modelling ().

It is assumed that both human thinking and human behavior are characterized by a weakness in the form of a lack of rationality in various situations, with a tendency towards emotionality. Therefore, if human thinking is opposed to rational thinking, and human behavior is opposed to rational behavior, then the equivalent that characterizes rational thinking and behavior is machines. According to experts, it is machines that have the potential to mimic human thinking in the turbulent decision-making process typical of humans (Makowski, 2023).

The literature shows that artificial intelligence technologies are seen as an essential part of the digital transformation. At the same time, they are becoming present in and increasingly influencing almost every profession. In the case of journalism, this is happening at two levels. On the one hand, there is the "mechanization of the journalist", which is also linked to very different practices that undoubtedly facilitate his or her work, but also fall under transhumanism. On the other hand, there is the creation of the 'machine journalist'. Artificial intelligence is responsible for the creation of journalistic content, opinions, graphics, which is undoubtedly beginning to arouse more and more fears linked to the possibility of overstepping the boundary: the autonomy and subjectivity of objects endowed with intelligence (humans) (Raś, 2023).

It seems worth emphasizing that AI is essentially based on methods known since ancient times, namely knowledge extraction, top-down deduction and bottom-up induction. While the top-down approach in particular played an important role in the first artificial intelligences and experienced a resurgence in the early 21st century in the form of probabilistic generative models, the bottom-up method is based on techniques involving the detection of statistical patterns in large data sets. It involves giving the program access to data from which meaningful patterns can be extracted (Osika, 2023).

3. DISINFORMATION EPIDEMIC

Artificial intelligence is currently being explored in various communication processes. Undoubtedly, one aspect worth highlighting is that one of the main purposes (in terms of

journalism) for which it should be used is to combat disinformation, which should certainly be seen as a benefit.

In an era of widespread disinformation and misinformation, which was particularly exacerbated during the COVID-19 pandemic, but also in the context of the Russian Federation's aggression against Ukraine or the constant predictions of China's attack on Taiwan, it is a major challenge to target audiences with verified, truthful information without spreading social unrest.

There is no denying that all kinds of crisis situations, natural disasters, social tensions, political events of an international nature, important changes of a macro-economic nature, are fertile ground for disinformation, which means that they can become a tool for conducting information operations as part of a broader military strategy. Of course, it is important to be aware that this type of activity is not new, but it has recently become more intense. In this context, with the growing importance and reach of electronic media, the spread of conspiracy theories and the waging of hybrid wars (mainly on digital platforms), the use of artificial intelligence is expected to help detect disinformation content. The techniques of so-called Generative Co-operative Networks and Large Language Models have a particular role to play here. The former are machine learning models that consist of two competing neural networks - a generator and a discriminator. They are used to generate new data samples: images, sounds, text. The generator is responsible for generating data samples, while the discriminator is responsible for classifying whether they are real or artificial. The two neural networks learn from each other, aiming to reach an equilibrium where the generator produces reliable data samples that the discriminator cannot distinguish from the real thing. Although Generative Neural Networks can be used to create false content, they can also be used to detect misinformation, and it is in this context that they are said to be useful. This is because neural networks can learn to recognize false content that has been generated by other generative collaborative networks. This means that it becomes possible to identify, remove, flag and unmask false information (Gradoń, 2023).

Large Language Models, on the other hand, are a class of machine learning algorithms that have the ability to generate natural-sounding texts. These algorithms are trained on large linguistic (textual) corpora, which means they can generate the kind of text that seems natural to the recipient. This helps them to understand the context and meaning of words, but also to draw on existing knowledge and experience. Large Language Models are used in machine translation, image description generation, article and review writing, and chatbot creation. This means that the content they produce is similar to that produced by a human. Of course, these algorithms can also pose a threat in the context of spreading disinformation, and consequently the nature of the messages generated and sent to the recipient can be misleading, falsifying information, deliberately altering the narrative (especially if the information has been drawn from the training data available to them) (Gradoń, 2023), but as in the case of Generative Co-operative Networks, the process should still (at least for now) be supervised by a human, so that the content produced and the messages generated are verified and subjected to critical analysis.

In the context of the use of AI for disinformation, sources highlight a certain complexity of the issue. On the one hand, as already mentioned, artificial intelligence offers the possibility of creating realistic content, which may, however, be false, leading to the manipulation of public opinion on an unprecedented scale. It is worth noting that the development of the Internet, which has made it possible to simultaneously develop communication on a hitherto unimaginable scale, has also contributed to accelerating the

spread of disinformation. However, artificial intelligence also offers the possibility of using tools to effectively combat false and misleading information, which is linked to the ability to identify and neutralize this type of content by analyzing characteristic patterns (Wróblewski, 2024).

The fight against disinformation, which disrupts the process of communication, especially in journalism, should undoubtedly be considered a benefit of the use of artificial intelligence. However, this is not the only situation that can be considered in terms of communication opportunities in the AI era. Another is undoubtedly the speed and efficiency with which huge amounts of data can be processed and analyzed in a short period of time, which will certainly speed up communication and, in the long term, decision-making. Artificial intelligence can be used by government systems, not only to support information security, to help detect terrorism and crime, to support police operations, but also, thanks to its ability to process huge amounts of data and the speed of its analysis, it fundamentally affects the support of communication between the state and citizens processes. The monitoring of content by artificial intelligence, which of course goes hand in hand with efforts to combat disinformation, makes it possible to detect possible threats to public security, potential crimes or terrorist acts at an early stage, and is even invaluable for the nature of communication between the state and citizens. The key to this seems to be the ability of artificial intelligence to analyze different data sources simultaneously, which directly implies a revolutionary approach to data collection (Hermann, 2021).

Personalization can also be seen as another type of benefit. It should be stressed that with the help of AI algorithms, it is possible to analyze users' preferences and then tailor communications to their own needs, which in turn leads to increased benefits in terms of the effectiveness of specific actions or interactions (Hermann, 2021).

In journalism, for example, personalizing content for the user allows the user to be reached with the news and content they are most interested in, need and do not have to waste time searching for. On the other hand, from a marketing perspective, personalization has an economic value because it increases the effectiveness of marketing activities by reaching users who are looking for specific goods and opportunities.

It is hard to argue with the statement that communication in the age of artificial intelligence also means that interesting content is essentially available twenty-four hours a day, seven days a week. This means that both chatbots and virtual assistants can be at the user's disposal at any time, whenever the user feels like it or is in need. On the one hand, the literature emphasizes that virtual assistants are evolving rapidly and learning human-like behavior just as quickly, meaning that the skills they acquire will enable them to reduce the workload of human employees while still providing a seamless level of service. On the other hand, there are a number of barriers that are not conducive to this type of solution, the most important of which is required.

4. ARTIFICIAL HOPE

Another interesting aspect worth discussing seems to be that, although many sources point to the problem of the risks of using artificial intelligence at the level of communication with the retail customer, it is impossible to ignore the good points of such an approach. Above all, both people and technology have their strengths and weaknesses. Not everyone will like the way they communicate with a bot or a virtual assistant. On the other hand, it is reasonable to assume that the vast majority will be satisfied with the increased level of service, attentiveness, patience, consistency of service, operational

efficiency or multi-tasking capabilities. And this, in turn, can lead to an increase in the quality of service provided by the human agent, thus significantly improving communication (Pappas, Fumagalli, Rouziou, Bolander, 2023).

Research also shows that as the technology evolves, customer confidence in chatbot-assisted communication increases, as they are not characterized by the behaviors that are characteristic of humans: fatigue, distraction and, in general, reduced productivity. However, unlike humans, chatbots also do not exhibit the behaviors that consumers view positively, such as being more understanding, empathetic and flexible (Benmansour, Hdouch, 2023).

Another benefit that AI offers in terms of communication is the possibility of using real-time translation, which can facilitate communication between people around the world who speak completely different languages (Dillu, 2024).

Of course, communication in the age of AI also brings with it a number of risks, the most important of which are: the spread of disinformation (it has already been suggested that AI can both stop it and facilitate its spread); ethical challenges, especially in relation to the rather controversial issue of AI decision-making; and dependence on technology, which can consequently lead (in its extreme form) to a loss of interpersonal and human communication skills. This last aspect in particular seems to require further comment.

It is not uncommon in the literature to raise the question of how reliance on artificial intelligence, virtual assistants, chatbots, Siri (and the like), by providing efficient but emotionless interactions that essentially require minimal social effort, deprives people of all the nuances associated with conversation, especially tone, mood and emotional overtones (Dillu, 2024). Many people do not trust communication dictated by the rules of artificial intelligence, often without being aware that it is being used. It is therefore reasonable to assume that they are primarily driven by prejudice. However, an experiment has shown that the use of AI can have a certain effect on the shaping of linguistic production and related interpersonal perception (Hohenstein, Kizilcec, DiFranzo, Aghajari, Mieczkowski, Levy, Naaman, Hancock, Jung, 2023), so that the level of trust increases or decreases depending on this shaping.

5. SUMMARY

Although many sources raise concerns about the use of artificial intelligence (not only in the context of communication, but in a much broader sense), it must be acknowledged that, with the participation of the human factor, it is possible to collaborate in a way that brings benefits, opportunities and not only threats.

Thanks to artificial intelligence, it is possible to use chatbots and virtual assistants to improve the quality of communication; the analysis of user data can improve the personalization of communication; and automatic translation has the potential to improve the nature of intercultural relations. In addition, the use of artificial intelligence can have an impact on team support and therefore on internal communication within an organization, as well as on communication security itself.

The author has read and agreed to the published version of the manuscript.

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RESILIENCE AS A STRATEGIC PILLAR OF COGNITIVE SECURITY

This article explores resilience as a strategic response to the emerging challenges of cognitive warfare, increasingly acknowledged as a critical security threat of the twenty-first century. It argues that resilience should be conceived not merely as a defensive measure, but also as a political and social resource essential to safeguarding cognitive sovereignty. Drawing on a critical review of scholarly literature, NATO and EU strategic documents, as well as selected case studies of cognitive operations, the study identifies key psychological and societal vulnerabilities alongside mechanisms that can reinforce resilience. The practical implications underscore the importance of fostering public awareness, strengthening digital and emotional competences, consolidating institutional frameworks, and deepening international cooperation.

Keywords: cognitive security, cognitive resilience, social resilience, cognitive vulnerability, disinformation.

1. INTRODUCTION

The contemporary security environment is characterized by the complexity, dynamism, and multidimensionality of processes that redefine the traditional understanding of peace and war. In the second decade of the 21st century, conflicts have increasingly moved beyond the traditional field of military operations (Buzan, Hansen, 2009) to encompass the digital, informational and cognitive spheres. Such changes necessitate an interdisciplinary approach to security and adaptability – the capacity of states and international organisations to swiftly respond to evolving circumstances and bolster social resilience. In the contemporary era, armed conflicts and crises are becoming increasingly characterised by rapid information dissemination, thereby rendering geographical boundaries increasingly obsolete. Such an environment has been shown to foster integration and international cooperation, yet simultaneously creates potential for destabilising actions that compromise the internal cohesion of states and organisations. The notion of volatility, uncertainty, complexity, and ambiguity (VUCA) encapsulates the prevailing characteristics of this contemporary reality. These qualities have been identified as significant impediments to

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the establishment of stability, thereby placing considerable strain on decision-making processes and increasing the probability of erroneous outcomes. The conventional boundaries that delineate the concepts of war and peace, friend and foe, and combatant and civilian are becoming increasingly indistinct. A significant aspect of contemporary warfare is the execution of operations that fall below the threshold of overt military confrontation. This approach facilitates the achievement of strategic objectives without the necessity for direct armed confrontation, whilst concomitantly impacting the defensive capabilities and political stability of the adversary (Pacek, 2022).

Against this backdrop, the concept of cognitive warfare has emerged as a central feature of contemporary operations, equivalent in significance to traditional forms of conflict. NATO analyses and reports consistently identify Russia and China as states at the forefront of developing techniques to manipulate cognitive processes, compelling Western countries to devise effective counterstrategies (Tögel, 2023). Bernard Claverie and François du Cluzel underscore that the very essence of cognitive warfare lies in its covert nature: its effects typically become visible only at a stage when it is already too late for an adequate response (Claverie, du Cluzel, 2021b). Increasingly, conflicts are being waged in the cognitive domain, where the struggle revolves around perceptions, emotions, and the decision-making capacities of individuals and societies (Le Guyader, 2022).

NATO is contemplating the potential expansion of its catalogue of operational domains to encompass the human dimension, conceptualising it as a prospective “sixth domain” that would be situated alongside established domains such as land, sea, air, space, and cyberspace. In a study prepared for Allied Command Transformation, Andrew Cole and Hervé Le Guyader posit that the concept of a purely *cognitive domain* would be overly restrictive, as it would confine activities exclusively to cognitive processes. Instead, they propose the broader concept of the *human domain*, encompassing emotional, cultural, and social aspects that increasingly shape the course of conflicts (Cole, Le Guyader, 2020). As Le Guyader (2022) observes, this domain facilitates the exertion of influence over an adversary's thoughts and decisions without the necessity for direct confrontation, which is invariably costly and risky. Consequently, the human being, the mind, and decision-making processes are beginning to be regarded as a new operational space requiring long-term incorporation into NATO doctrine and strategic planning (Claverie, du Cluzel, 2021b; Tögel, 2023).

In 2023, Linan Huang and Quanyan Zhu proposed the concept of *cognitive security* as a new research direction in the field of Human-Cyber-Physical Systems (HCPS) protection. In such systems, the human being serves not only as a user but also as an integral component, interacting with technology and exerting a direct influence on its functioning. This suggests that cognitive processes may be regarded as both a target of attacks and a potential source of vulnerability. Research in this field has hitherto been primarily concerned with threats within the cyber and physical domains. The human factor has been examined principally from the perspective of reliability, understood as the minimisation of human error. However, the present situation calls for a more comprehensive approach, one that acknowledges the possibility of cognitive errors stemming not only from unintentional mistakes but also from deliberate manipulation by an adversary. In this context, a new category of research is required: cognitive security. This new category aims to protect cognitive processes against intentional interference and manipulation. It is therefore imperative to regard cognitive security as an essential and complementary dimension of HCPS protection. It encompasses both the safeguarding of cognitive processes and the

development of human resilience as a fundamental element of the security structure, whose role is pivotal in the conditions of complex, hybrid threats (Huang, Zhu, 2023).

The development of resilience should be multi-level in nature, encompassing the individual level (cognitive and emotional competences), the social level (trust, shared narratives, and community bonds), the state level (appropriate regulations, institutions, and public policies), and the international level (cooperation and the establishment of global standards) (NATO, Warfighting Capstone Concept, 2021). The following three arguments provide a comprehensive rationale for this assertion. Firstly, it ensures long-term systemic stability. Even if individual attacks prove effective, a resilient society is capable of maintaining continuity of functioning and restoring internal cohesion. Secondly, it fulfils a preventative function by reducing the vulnerability of individuals and communities to manipulation and disinformation. Thirdly, it carries a normative dimension, as it strengthens the foundations of democracy: pluralism, deliberation, and institutional trust. In this sense, resilience is not merely a component of security but also a political and social resource that conditions the ability to maintain *cognitive sovereignty*, understood as autonomy in the interpretation and assessment of reality (Brcic, 2025). In the era frequently designated as the “disinformation epidemic” (Wardle, Derakhshan, 2017), multi-level resilience emerges as a pivotal security asset, determining the survival and development of democratic states and societies in the 21st century.

2. COGNITIVE WARFARE AS A SECURITY THREAT

The term 'cognitive warfare' is also referred to as 'cognitive conflict' or the 'war for minds', and constitutes a growing threat to contemporary states and societies. The fundamental nature of this phenomenon can be understood through its deliberate interference with the perceptual, decision-making and emotional processes of individuals and entire social groups. In contradistinction to conventional armed conflicts, cognitive warfare does not necessitate the utilisation of physical force. Its efficacy is predicated on the employment of contemporary digital technologies, media, and psychological expertise for the dissemination of disinformation and the manipulation of public opinion. This approach constitutes a form of asymmetric action, encompassing the systematic targeting of an adversary's cognitive processes. The outcome of this action is not only a shift in beliefs but also a lasting transformation in the perception of reality, behavioural patterns, and value systems (Morelle et al., 2023). When analysing this phenomenon in the context of security, the main objectives of cognitive operations can be identified. Their primary objective is to effect a change in social perception by influencing opinions and attitudes in key areas such as national security, international politics, or national identity. The crux of these actions lies in the exacerbation of polarisation and social disintegration, achieved by amplifying internal conflicts and antagonisms, which consequently lead to chaos and the erosion of social cohesion. Cognitive operations also encompass the weakening of trust, the undermining of the authority of state institutions, political elites, and the media, as well as the appropriation of control over public narratives, primarily through the creation and dissemination of disinformation (Skrabacz, Więckowski, Pajka, 2025).

The long-term impact of cognitive operations on democratic states is a matter of significant concern. These efforts may encompass attempts to undermine and dismantle international alliances, as well as to influence citizens' propensity to engage in defence activities. Moreover, there is an increasing tendency to interfere in electoral processes, with

the result that democratic mechanisms of legitimising power are being disrupted through disinformation campaigns, fake news, or visual content (Claverie, du Cluzel, 2021b).

The basis of cognitive warfare is the synergistic application of advances in the NBIC sciences, namely nanotechnology, biotechnology, information technology, and cognitive science. The convergence of these fields gives rise to new opportunities for conducting both military and non-military operations, exerting influence on soldiers and civilian populations simultaneously (Claverie, du Cluzel, 2021a; Etter, 2002).

Cognitive warfare not only redefines the battlefield but also transforms the traditional understanding of the actors involved in operational activities. In classical security theories, the principal actors were nation-states, international organisations, or armed groups. In contrast, within the realities of contemporary cognitive conflicts, non-state actors play an equally significant role. These include technology corporations, hacker groups, automated communication systems (bots), influencers on social media, as well as ordinary users who often unknowingly support the activities of parties conducting cognitive operations (Claverie, du Cluzel, 2021a.).

In this context, the individual transitions from functioning solely as the recipient of operational actions to concurrently assuming the role of executor. The attack is not directed against information systems or physical infrastructure; rather, it is aimed at destabilizing the cognitive system. It is sufficient for the target to lose trust in public institutions, to cease distinguishing facts from opinions, and to withdraw from civic life-remaining indifferent to surrounding reality and passive in the pursuit of truth – for the adversary to achieve its objectives. Such actions generally result in disorientation and induce decision-making paralysis in the target. The progression of a cognitive attack is delineated by the concept of the *kill chain of cognitive attack*, which comprises a series of stages culminating in the effective manipulation of cognitive processes. The process commences with the methodical compilation and examination of data concerning the prospective victim. This facilitates the adversary's ability to ascertain objectives and modify tactics, techniques, and procedures (TTP). The subsequent stage entails the exploitation of human cognitive vulnerabilities, including limited attention, memory errors, and cognitive schemas. A critical element of this model is the monitoring and adaptation phase, in which the victim's responses serve as the basis for real-time adjustments. For instance, time pressure may be increased for cautious individuals or emotional messaging may be intensified for those more susceptible. Subsequently, the manipulation is reinforced and disseminated across wider social circles, exploiting trust and interpersonal relations. In essence, cognitive influence permeates human-cyber-physical systems, exerting an influence not only on individual choices but also on the cybernetic and physical components of infrastructure. The *kill chain of cognitive attack* demonstrates that cognitive warfare is not confined to simple disinformation but rather constitutes a complex, adaptive, and multi-stage process in which the human mind becomes both the battlefield and the vector of systemic destabilization (Huang, Zhu, 2023).

The 2021 NATO Warfighting Capstone Concept (NWCC) delineates the long-term trajectory for the development of the Alliance's military instrument of power up to the year 2040. The prevailing hypothesis suggests that the future of strategic competition will unfold within a multidimensional and multi-domain environment encompassing the physical, cyber, and cognitive domains. It is the latter – namely, the capacity to influence an adversary's awareness, perception, and decision-making processes – that is increasingly recognized as one of the most critical areas of NATO's future operations (NATO, Warfighting Capstone Concept, 2021). In NATO's strategic vision for the evolution of warfare, two imperatives within the cognitive dimension are of particular importance:

cognitive superiority and layered resilience. The concept of cognitive superiority refers to the Alliance's capacity to attain a comprehensive understanding of the strategic and operational environment, as well as of adversaries, through the utilization of data, predictive analytics, and information technologies. This capacity of NATO to detect threats more rapidly, anticipate adversary actions, and make more effective strategic decisions is a key factor in generating both decision-making and operational advantage. This notion is further elaborated in the concept of layered resilience, which involves the establishment of multi-level, mutually reinforcing protective mechanisms across both the military and civilian spheres. This concept signifies the capacity to uphold the continuity of institutional operations, command structures, and societies, even in circumstances of crisis, information warfare, or protracted strategic pressure. The combined effect of these two imperatives constitutes the foundation of an effective response to cognitive warfare. Cognitive superiority facilitates the early detection and neutralization of threats, while layered resilience ensures the durability and cohesion of security systems in the face of attempts to disrupt cognitive and decision-making processes (NATO, Warfighting Capstone Concept, 2021).

3. VULNERABILITY TO COGNITIVE INFLUENCE

Cognitive vulnerabilities represent a pivotal domain of research in the field of cognitive security, as processes of perception, attention, memory, and cognitive operations can be intentionally disrupted or influenced by an adversary. Each of these mechanisms is indispensable for effective functioning in a complex information environment; however, they are encumbered by biological and psychological limitations that increase the potential for attacks within Human-Cyber-Physical Systems. The analysis of these vulnerabilities enables the identification of potential attack vectors, the detection of points of particular susceptibility, and the design of defensive mechanisms aimed at strengthening users' cognitive resilience. Cognitive security, as an interdisciplinary field, necessitates the concurrent consideration of technical, psychological, and social dimensions. Cognitive attacks are defined as deliberate manipulative actions designed to interfere with individual decision-making processes. These attacks may manifest in various forms, ranging from phishing and information manipulation to sensory overload within the framework of Information Denial of Service (IDoS) attacks. An examination of these mechanisms reveals that humans are not merely users of a system, but also its potential weakest link (Huang, Zhu, 2023).

The development of resilience necessitates an comprehension of the human cognitive process, which comprises distinct stages that facilitate the reception of stimuli, their selection, processing, and decision-making, ultimately resulting in specific behaviors. The initial phase of this process is perception, which entails the reception of environmental information through sensory organs such as vision, hearing, touch, smell, and taste. This information is then interpreted within the framework of prior experiences, knowledge, and expectations (Goldstein, 2014). This process, while foundational, is not without its limitations. Factors such as optical illusions, sensory disturbances, or situational context can lead to the misinterpretation of stimuli (Gregory, 1997).

In the subsequent stage, attention plays a pivotal role by functioning as a filter that reduces the excess of stimuli and directs cognitive resources toward information deemed most relevant and urgent. This mechanism serves to safeguard the cognitive system from potential overload; however, it concomitantly engenders vulnerability. Phenomena such as

inattentive blindness and change blindness have been demonstrated to cause individuals to “look but not see”, thus overlooking significant elements of their environment (Mack, Rock, 1998; Simons, Chabris, 1999). The information that is selected by attention is then transferred to working memory, a system with limited capacity and retention time, where it remains accessible for immediate use (Baddeley, 2012; Oberauer, 2019). While working memory is critical for reasoning and decision-making, it is susceptible to overloading, which can lead to an increased likelihood of errors, reliance on heuristics, and susceptibility to informational manipulation. In accordance with load theory, an elevated perceptual load has the capacity to suppress distractors. However, cognitive load on working memory paradoxically heightens vulnerability to distraction (Lavie, 2005).

Finally, higher-order cognitive processes – including reasoning, learning, and decision-making – integrate information from earlier stages of cognition, transforming it into concrete actions. However, this level is also characterized by vulnerabilities, including cognitive biases that can distort judgments and choices, creating opportunities for adversaries to exploit in the context of cognitive attacks. This suggests that each component of the cognitive process – perception, attention, memory, and cognitive operations – has the potential to serve as a vector of attack. Accordingly, the cognitive process model functions not only as a theoretical framework for analyzing the workings of the human mind but also as a foundation for designing cognitive defense strategies within Human-Cyber-Physical Systems. In order to effectively enhance the resilience of individuals and organizations, such strategies must synthesize technological, psychological, and social perspectives (Huang, Zhu, 2023).

Classical research on heuristics and cognitive biases has demonstrated that under conditions of information overload, individuals often rely on simplified evaluation strategies, which lead to systematic distortions in perception and judgment. The confirmation effect is a psychological phenomenon in which individuals are predisposed to accept content that aligns with their preexisting beliefs. The availability heuristic, on the other hand, refers to the tendency of people to perceive events that have received significant media attention as more probable than those supported by statistical data. In a similar vein, the illusory truth effect – defined as repeated exposure to the same content – has been shown to imbue that content with an unwarranted sense of credibility (Kahneman, Sibony, Sunstein 2022; Kahneman, 2012).

It is important to acknowledge the role of emotions in cognitive operations. Research has demonstrated that fear promotes defensive behaviors, whereas anger increases the propensity to take risks (Lerner, Keltner, 2001). In this sense, disinformation narratives are often designed to evoke negative emotions, thereby constraining the capacity for critical reflection and encouraging the acceptance of simplified explanations (Weeks, 2015). These mechanisms act synergistically with identity processes. The natural tendency to categorize society into “us” and “them” groups (Tajfel, Turner, 1979) fosters cognitive polarization and the formation of echo chambers, within which opinions become increasingly radicalized (Sunstein, 2017).

An additional factor that exacerbates cognitive vulnerabilities is the allure of conspiracy narratives. As demonstrated by Jan-Willen van Prooijen and Karen M. Douglas (2017), in conditions of crisis and diminished sense of control, individuals are more likely to adopt simplified, coherent, yet false explanations that combine true and untrue elements in ways that make them difficult to falsify. The architecture of digital information ecosystems serves to amplify these psychological mechanisms. Recommendation algorithms on social media platforms, designed to maximize user engagement, promote the personalization of

content, which in turn reinforces preexisting beliefs and fosters the creation of information bubbles (Pariser, 2011).

Automated communication tools, including bots and troll farms, facilitate the large-scale dissemination of narratives and the creation of an illusion of spontaneous grassroots support, a practice often referred to as astroturfing. The development of artificial intelligence further amplifies this phenomenon. Generative AI techniques allow for the production of images, recordings, and texts that are virtually indistinguishable from authentic materials. This increases the risk of social destabilization and the erosion of public trust in an environment already saturated with information (Chesney, Citron, 2019). One of the most widely discussed examples of the political use of data and algorithms was the Cambridge Analytica scandal, in which the analysis of social media data enabled the microtargeting of electoral messages, significantly enhancing the effectiveness of manipulation (Isaak, Hanna, 2018). Furthermore, the absence of algorithmic transparency and the arbitrary nature of content moderation decisions serve to exacerbate the ongoing trust crisis, which in turn becomes a tool of destabilization (Napoli, 2019).

Cognitive operations have been demonstrated to be particularly effective in societies marked by high levels of polarization and erosion of trust. The phenomenon of echo chambers and filter bubbles, which are mechanisms that foster radicalization of attitudes and hinder social dialogue, have been shown to amplify susceptibility to manipulation. During periods of social or economic crisis, conspiracy narratives tend to proliferate, as individuals experiencing a diminished sense of control often resort to adopting simplified explanations. The crisis of authority among traditional media and experts further contributes to the prominence of alternative sources of information, which often fail to meet established standards of reliability (van Prooijen, Douglas, 2017; Sunstein, 2017).

At the systemic level, cognitive warfare is defined by a clear cost asymmetry: creating and spreading disinformation is fast and inexpensive, while its verification and neutralization demand time, expertise, and substantial resources. Christopher Paul and Miriam Matthews (2016) describe the Russian *firehose of falsehood* model, in which large volumes of contradictory messages flood the public space, producing confusion and epistemic fatigue. In a similar vein, Brad Allenby and Joel Garreau (2014) point to *weaponized narratives* – political stories deliberately designed to frame events in specific ways and to shape how societies perceive reality over the long term.

Cognitive warfare is not merely a transient form of propaganda; rather, it represents a new architecture of conflict in which the human mind itself becomes the primary battlefield. Its strength derives from the interaction of psychological, technological, social, and systemic factors, which together create a self-reinforcing mechanism that is difficult to interrupt. Effective defense requires the cultivation of cognitive resilience – understood as the ability of individuals and communities to engage in critical thinking, metacognitive reflection, and the conscious use of information – while simultaneously rebuilding social trust and enhancing technological transparency. Such an integrated approach is essential to safeguard cognitive security in an era of intensifying strategic competition (Lewandowsky, Ecker, Cook, 2017).

4. MULTI-LEVEL RESILIENCE BUILDING

The origins of the concept of resilience can be traced back to the 1970s and are most closely associated with the field of developmental psychology. In his seminal studies on children growing up in adverse conditions, Norman Garmezy (1971) observed that some

exhibited the capacity to sustain healthy development despite the presence of significant risk factors. Converging findings were reported in Emmy E. Werner, Jessie M. Bierman, and Fern E. French longitudinal research in Hawaii, which systematically documented individuals' capacity for recovery and adaptation in the face of poverty, family stress, and health problems (Werner, Bierman, French, 1977). In the subsequent decade, within the domain of sports psychology, a related yet distinct construct, namely "mental toughness," began to emerge. James E. Loehr (1986) advanced the notion that the success of elite athletes is not solely determined by their competencies or physical conditioning, but also by their capacity to maintain elevated levels of performance under pressure. This concept was soon applied in other domains, including education, business, and management. Contemporary models, such as the 4C framework, identify four core dimensions of resilience: viewing difficulties as challenges, maintaining consistent commitment, exercising control over one's actions and emotions, and sustaining confidence in one's abilities (Strycharczyk, Clough, 2024). Consequently, mental toughness does not signify the absence of stress; rather, it signifies the capacity to harness stress constructively as a source of adaptive strength. In the military context, the concept of resilience has acquired strategic significance. Soldiers, akin to athletes, function in conditions of extreme pressure and risk. In such circumstances, mental fortitude is instrumental in determining their capacity to make sound decisions and maintain operational effectiveness despite fatigue, danger, or losses. In 2016, NATO incorporated resilience into a broader framework, defining it as the ability of individuals, units, and institutions to maintain operational readiness in the face of persistent adversarial actions (NATO, Commitment to enhance resilience, 2016). In this perspective, resilience is conceptualized as a collective resource. It has been demonstrated to strengthen morale, cohesion, and a community's capacity for survival. Furthermore, it has been shown to reduce the risk of disintegration under conditions of loss or enemy disinformation and propaganda.

With the evolution of hybrid conflicts and the expansion of operations in the informational and cognitive domains, the category of cognitive resilience has emerged. This concept denotes the capacity of individuals and communities to critically analyze information, detect manipulation, and preserve autonomy of thought under conditions of narrative pressure. Cognitive resilience has garnered increased recognition as a pivotal defensive resource, serving to shield against disinformation, propaganda, and psychological pressure. Moreover, it facilitates the maintenance of clarity of thought and emotional stability. It is imperative to recognize that this is not a static state; rather, it is a dynamic process necessitating continuous refinement. The rapid development of artificial intelligence, augmented reality, and new forms of communication has led to the generation of novel cognitive threats. Consequently, defensive strategies must remain adaptive and flexible, capable of responding to the evolving conditions of the information environment (Pacek B., Pacek P., 2023; Janowski, 2019). Cognitive resilience today constitutes a fundamental response to the threats generated by cognitive warfare. Its examination requires a multi-level perspective – spanning individuals, communities, states, and the international system – while its practical implementation has become one of the central challenges of contemporary security policy.

At the individual level, cognitive resilience serves as the foundational element of the comprehensive system that is designed to safeguard against cognitive warfare. The pivotal juncture at which the decision is made to either accept or critically assess incoming information occurs within the mind of an individual. Psychological research has demonstrated that the cultivation of cognitive, emotional, and digital competencies has

been shown to significantly mitigate susceptibility to manipulation (Kahneman, 2012). At the core of this approach is critical thinking, which encompasses the analysis of sources, the identification of logical fallacies, and the evaluation of the credibility of information (Gadacz, 2024). Media education that emphasizes these competencies enables individuals to identify manipulative techniques such as cherry-picking, false analogies, and ad hominem arguments. The Finnish educational system, widely regarded as a leader in media education, demonstrates that the early integration of such elements into school curricula substantially enhances young people's resilience to disinformation (Buckingham, 2007).

Emotional awareness is equally crucial, as cognitive operations frequently utilize fear, anger, or a sense of threat. Individuals who are capable of recognizing and regulating their own emotions demonstrate a lower susceptibility to manipulation. A growing body of research has demonstrated that mindfulness practices have the potential to enhance an individual's capacity to maintain emotional detachment from highly charged content (Chiesa, Calati, Serretti, 2011). This notion is further supported by the concept of metacognitive competence, which is defined as the ability to introspectively evaluate one's own cognitive processes. Individuals who engage in self-reflection, questioning the rationale behind their beliefs, are less susceptible to cognitive biases such as confirmation bias or the availability heuristic (Jarmuż, 2023).

An essential component of individual resilience is epistemic humility, defined as an awareness of the limitations of one's own knowledge and a willingness to revise it. Research indicates that individuals who embody this attitude are more likely to seek out alternative sources of information and to remain open to correcting erroneous beliefs (Jarmuż, 2023). In the digital age, cognitive resilience is contingent upon digital literacy. This entails a comprehensive understanding of recommendation algorithms, an acute awareness of the dynamics of information bubbles, and the adept use of verification tools such as fact-checking and reverse image searches (EU DisinfoLab, 2025).

The concept of individual resilience is multifaceted, encompassing a set of cognitive, emotional, and digital capacities that facilitate critical information processing and reduce susceptibility to manipulation. The development of this skill set necessitates a dual commitment: first, to formal education, and second, to individual self-directed learning. The necessity of strong individual resilience for the development of societal, state, and international resilience has been underscored by NATO documents.

Cognitive resilience at the level of communities and societies constitutes a crucial dimension of protection against the effects of cognitive warfare. Even individuals who are well-prepared cognitively and emotionally are unable to maintain resilience in conditions of deep polarization, erosion of trust, or the breakdown of social bonds. Consequently, community-level initiatives must prioritize the cultivation of cohesion, the promotion of social capital, and the construction of integrative narratives that supersede divisive ones (OECD, 2022).

The foundational pillar of social resilience is trust – both horizontal (between citizens) and vertical (in institutions). Research demonstrates that high levels of trust reduce susceptibility to disinformation, whereas its erosion fosters suspicion toward all sources and creates space for conspiracy narratives (OECD, 2022). A second pillar is social capital, understood as networks of relationships, norms, and trust that enable cooperation for the common good. Societies with high social capital have been shown to exhibit greater capacity for solidarity and self-organization, which facilitates countering disinformation and mitigating polarization (Putnam, 2000). Equally significant are media pluralism and independent journalism. Access to reliable and diverse sources of information has been

demonstrated to reduce the risk of narrative monopolization by a single group. In this capacity, the media function as intermediaries, linking the state and citizens. The crisis of mainstream media, which is linked to the processes of commercialization and the erosion of authority, weakens this mechanism and expands the space for alternative outlets. These outlets often serve as vectors of manipulation (Benkler, Faris, Roberts, 2018).

The cognitive resilience of communities and societies is predicated on structural pillars – trust, social capital, and media pluralism – as well as cultural factors such as values and narratives. It is imperative for societies to demonstrate not only the capacity to maintain cohesion and solidarity, but also the ability to respect pluralism, in order to effectively counter cognitive warfare.

Cognitive resilience at the level of the state and public institutions constitutes a cornerstone of security strategy in the era of cognitive warfare. While individuals and communities may develop their own defensive capacities, only the state possesses the resources necessary to establish the legal, institutional, and strategic frameworks that safeguard the entire information environment. In this sense, state-level resilience is systemic in nature – it integrates educational, regulatory, and operational measures into a coherent framework of public policy (OECD, 2022).

One of the primary instruments for strengthening state-level resilience is media and digital literacy. Through the education system, the state can cultivate citizens' cognitive and digital competencies, thereby enhancing their ability to recognize manipulation. Finland, often regarded as a model case, has integrated media literacy into curricula at all levels of schooling, significantly improving skills in critical information analysis (OECD, 2015).

Regulatory policies toward digital platforms are also of critical importance. States have the capacity to establish legal frameworks that mandate greater algorithmic transparency, faster responses to disinformation, and accountability for online content dissemination. (UE, 2022). The concept of institutional resilience encompasses the development of operational capabilities. These capabilities include institutions tasked with monitoring the information environment, analytical centers, and units dedicated to counter-narratives. An illustrative case is the NATO StratCom Centre of Excellence in Riga, which conducts research and training in strategic communication and supports member states in countering disinformation (NATO StratCom COE, 2025).

Another crucial area is the support of independent media and fact-checking initiatives. Rather than restricting pluralism, the state should invest in projects that enhance the quality of public debate and facilitate citizens' access to reliable sources of information. Collaboration between the public sector and civil society organizations further strengthens the resilience of information ecosystems (EU DisinfoLab, 2020; Benkler, Faris, Roberts, 2018).

At the strategic level, it is essential to integrate cognitive resilience into national security policy. NATO underscores that cognitive warfare constitutes a significant threat in the contemporary world, which implies the need to treat the protection of citizens' cognitive processes as a national security priority (NATO, Warfighting Capstone Concept, 2021). Equally important are inclusive and transparent policies. States that ensure transparency, uphold the rule of law, and respect freedom of expression are less vulnerable to disinformation. Conversely, authoritarian regimes – despite employing aggressive strategies of information control – face, in the long run, a crisis of trust and erosion of legitimacy (Puddington, Roylance, 2017).

The concept of state and institutional resilience is comprised of three fundamental domains: education, regulation, and security strategy. States that demonstrate the capacity to integrate these elements can effectively mitigate the consequences of cognitive warfare and provide their citizens with informational stability. Conversely, the absence of such integration signifies that even highly resilient individuals and communities remain vulnerable to manipulation in the face of institutional weakness.

Cognitive warfare is inherently transnational, transcending state borders and spreading globally through digital networks and social media platforms. As a result, cognitive resilience cannot be conceptualized solely within national frameworks; it requires international coordination, harmonized regulations, and institutions capable of addressing cross-border threats. Since 2020, NATO has advanced this agenda by developing research and training initiatives aimed at identifying and countering cognitive operations. Notable examples include the NATO StratCom Centre of Excellence in Riga and the NATO Innovation Hub in Norfolk, which analyze disinformation campaigns, design counter-narratives, and assist member states in strengthening their defensive capacities (NATO, 2021).

The European Union has likewise sought to reinforce information resilience through the work of the European External Action Service (EEAS) and the East StratCom Task Force, which monitor disinformation and provide member states with tools to mitigate its effects. Regulatory instruments such as the Digital Services Act and the revised Code of Practice on Disinformation impose stricter requirements for transparency and accountability on digital platforms (EU, 2022). At the global level, the United Nations promotes initiatives focused on digital security and the protection of human rights online, while the United Nations Educational, Scientific and Cultural Organization (UNESCO) advances Media and Information Literacy (MIL) programs designed to foster cognitive skills and critical thinking (UNESCO, 2013). Cognitive resilience is increasingly recognized as a global public good that requires a collective response from the international community. Public-private partnerships are central to this effort, as technology companies such as Meta, Google, and Microsoft possess the resources and tools necessary to detect and counter manipulative campaigns. Collaboration between states, international organizations, and the private sector is therefore indispensable (Microsoft, 2021).

5. CONCLUSIONS

In summary, cognitive resilience has emerged as a pivotal component of security in the era of cognitive warfare, wherein the objective is to diminish the capacity of individuals and societies to engage in critical thinking and make sound decisions. These attacks take advantage of cognitive biases, emotions, and the dynamics of digital environments, leading to the dissemination of disinformation, polarization, and the erosion of trust. Addressing these threats necessitates a multi-level approach, which includes the following: strengthening the cognitive and emotional competences of individuals, reinforcing community cohesion, building robust state institutions, and fostering international cooperation. Resilience, therefore, cannot be regarded as a static condition; rather, it is a dynamic process that must adapt to rapidly evolving technologies and narratives. Its development is imperative for maintaining stability, cognitive sovereignty, and the capacity of democratic societies to function under conditions of intensifying strategic competition.

In practical terms, it is imperative to incorporate the development of cognitive resilience into national security strategies and educational programs, with the objective of fortifying cognitive competences from the earliest stages of learning. Investments in autonomous media outlets and institutions specializing in the verification of factual information are of equal importance. These investments contribute to the enhancement of the quality of public discourse and the reduction of the domain in which disinformation can proliferate. A further priority is the development and operationalization of procedures for responding to international threats, enabling rapid and coordinated countermeasures. These efforts should be complemented by the creation of reliable indicators of resilience, including levels of social trust, vulnerability to manipulation, and the capacity of institutions to swiftly recover functionality after cognitive attacks.

The author has read and agreed to the published version of the manuscript.

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Ali MADOUNI: Understanding water scarcity and conflict dynamics in Africa: addressing geopolitical tensions, human security, and developmental impacts

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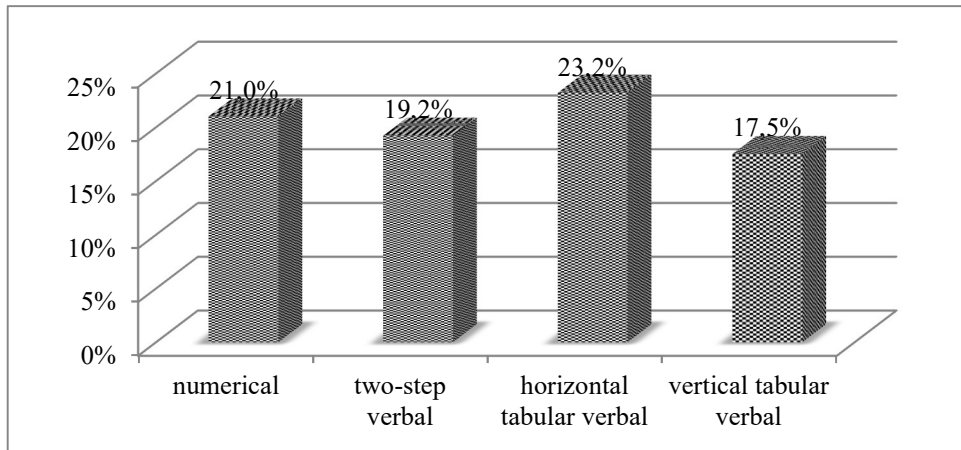


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