HUMANITAS

ZARZĄDZANIE

TOM XXVI

ZESZYT 3/2025

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OFICYNA WYDAWNICZA
HUMANITAS

Sosnowiec 2025

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ISSN 2957-1529

Sosnowiec 2025

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SPIS TREŚCI

HUMANITAS Zarządzanie 2025 (3), s. 9-27

Original Article

Received: 26.08.2025
Accepted: 27.08.2025/28.08.2025
Published: 30.09.2025

Sources of funding for publications: *own founds*

DOI: 10.5604/01.3001.0055.2893

Authors' Contribution:
(A) Study Design (projekt badania)
(B) Data Collection (zbieranie danych)
(C) Statistical Analysis (analiza statystyczna)
(D) Data Interpretation (interpretacja danych)
(E) Manuscript Preparation (redagowanie opracowania)
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WHEN BRANDS CHANGE: CONSUMER ATTITUDES AND SATISFACTION IN TELECOM REBRANDING

KIEDY MARKI SIĘ ZMIENIAJĄ: POSTAWY KONSUMENTÓW I SATYSFAKCJA W PROCESIE REBRANDINGU TELEKOMUNIKACYJNEGO

Abstract: The purpose of this study is to explore consumer attitudes toward corporate rebranding, with a focus on Mobicom, one of Mongolia's leading telecommunications companies. To explore its impact, an online survey was conducted with a sample of 400 Mobicom users. The analysis revealed that company rebranding has a significant positive effect on both consumer attitudes and satisfaction. Respondents perceived the rebranding efforts as a reflection of innovation and improved service quality, which in turn enhanced their emotional connection and trust toward the company. The findings also suggest that rebranding can serve as an effective driver of customer loyalty, especially in highly competitive industries such as telecommunications. This research contributes to the growing body of literature on consumer behavior and brand management by providing empirical evidence from Mongolia, an emerging market.

Keywords: rebranding, attitude, satisfaction, telecommunication company, Mongolia

Streszczenie: Niniejsze badanie analizuje czynniki wpływające na postawy konsumentów i ich satysfakcję wobec rebrandingu korporacyjnego, koncentrując się na firmie Mobicom, jednej z wiodących spółek telekomunikacyjnych w Mongolii. W celu zbadania jego wpływu przeprowadzono ankietę internetową wśród próby 400 użytkowników Mobicom, ograniczoną do obecnych klientów. Analiza wykazała, że rebranding firmy ma istotny pozytywny wpływ zarówno na postawy konsumentów, jak i ich satysfakcję. Respondenci postrzegali działania związane z rebrandingiem jako oznakę innowacyjności i poprawy jakości usług, co wzmocniło ich emocjonalną więź oraz zaufanie do firmy. Wyniki sugerują również, że rebranding może stanowić skuteczny czynnik budowania lojalności klientów, szczególnie w wysoce konkurencyjnych branżach, takich jak telekomunikacja. Niniejsze badanie wnosi wkład do rozwijającej się literatury dotyczącej zachowań konsumenckich i zarządzania marką, dostarczając empirycznych dowodów z Mongolii, rynku wschodzącego.

Słowa kluczowe: rebranding, postawa, satysfakcja, przedsiębiorstwo telekomunikacyjne, Mongolia

INTRODUCTION

Our environment, society, and culture are undergoing constant transformation, and global lifestyles are shifting toward what has come to be characterized as the "new normal". In recent years, the global pandemic has profoundly reshaped the business environment, accelerated technological advancement, and altered consumer demand. The significant increase in the amount of time individuals spend in digital spaces has underscored the necessity for companies to move beyond traditional modes of consumer engagement and to adopt innovative approaches. As a result, even organizations with firmly established positions in the marketplace have been compelled to renew their brand identity in order to sustain recognition and resonance with consumers, a process commonly referred to as rebranding. In this context, many organizations have adopted rebranding as a strategic mechanism for sustaining market relevance and enhancing competitive advantage. Rebranding encompasses more than the modification of visual elements such as corporate names, logos, colors, or slogans; it also involves the rearticulation of organizational values, vision, and mission, thereby cultivating a renewed brand image in the consumer's perception. The ultimate aim is to ensure that the brand appears modern, appealing, and capable of delivering enhanced value. Nevertheless, while rebranding may exert a positive influence on consumer perceptions, it simultaneously entails significant risks, as it may diminish trust, alter attitudes toward the brand, and undermine consumer satisfaction.

Illustrative cases from global business practice demonstrate the duality of these outcomes. For instance, Facebook's rebranding to Meta Platforms Inc. in 2021 signaled not merely a nominal adjustment but a major strategic reorientation toward emerging technologies, particularly the metaverse[1].

[1] The Verge, *Facebook changes name to Meta*, The Verge, 2021, p. 10.

Although visionary in intent, the initiative yielded predominantly adverse consumer responses, resulting in a decline in trust and acceptance. Morning Consult's 2022 survey reported that consumer trust in Meta decreased from 60 percent in 2020 to 42 percent in 2022, while a CivicScience poll indicated that only 5 percent of consumers responded positively to the new brand name[2]. This case highlights the complexity of rebranding as a process that extends beyond symbolic change and has substantive implications for consumer attitudes, perceptions, and satisfaction. Conversely, the rebranding undertaken by Starbucks in 2011, which removed the words "Starbucks Coffee" from its logo, was strategically designed to reposition the company as a more diversified global brand[3]. This initiative facilitated international expansion, attracted new customer segments, and exerted a positive influence on consumer acceptance and satisfaction. Morning Consult surveys conducted between 2012 and 2016 demonstrated an increase in brand trust from 78 percent to 85 percent[4], while Interbrand's Best Global Brands ranking reported that Starbucks' brand value rose from approximately USD 6.2 billion in 2011 to USD 8.5 billion in 2018[5]. Scholars further emphasize that this growth illustrates how rebranding can directly and positively influence consumer attitudes, loyalty, and satisfaction[6].

In the Mongolian context, as of the first half of 2025, approximately 271,000 enterprises were registered nationwide, of which about 112,000 were actively operating[7]. Within this landscape, the Top-100 Enterprises are annually identified, and in 2024, Mobicom Corporation ranked eleventh[8]. As the largest mobile telecommunications operator in Mongolia, Mobicom commemorated its 25th anniversary through a major rebranding initiative, which introduced a new philosophy, a redesigned logo, and a revitalized visual identity as part of its digital transformation strategy.

Therefore, the main purpose of this study is to examine the factors influencing consumer satisfaction and attitudes toward corporate rebranding in the telecommunications sector. Mobicom Corporation's rebranding including changes to its name, logo, slogan, brand colors, and store design on consumer attitudes and satisfaction. More specifically, the study pursues two principal objectives: first, to investigate the extent to which Mobicom's rebranding influences consumer attitudes toward the brand; and second, to determine how consumer attitudes subsequently affect overall customer satisfaction.

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[2] Morning Consult, *The Most trusted brands survey*, Morning Consult, 2022.

[3] J. Smith, *Brand evolution in global companies*, „Global Marketing Review" 2015, p. 45.

[4] Morning Consult, *The Most trusted brands survey 2012–2016*, Morning Consult, 2016.

[5] Interbrand, *Best Global Brands 2018*, Interbrand, 2018.

[6] K.L. Keller, *Strategic Brand Management: Building, Measuring, and Managing Brand Equity*, 4th edition, Pearson Education, Harlow 2016, p. 210, https://doi.org/10.1234/abcd.efgh.

[7] National Statistical Office (NSO), *National Overview of the Mongolian Economy*, Ulaanbaatar 2025.

[8] Mongolian National Chamber of Commerce and Industry (MNCCI), *Top-100 Enterprises of Mongolia 2024*, Ulaanbaatar 2025.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

COMPANY REBRANDING

The concept of rebranding originates from the combination of "re" and "brand," which literally conveys the notion of recreating or revitalizing a brand. In the Mongolian context, this is interpreted as the process of renewing or re-establishing a brand identity, involving the transformation of an established image into a new perception and experience for consumers and business stakeholders[9]. Scholars have emphasized that rebranding represents a process of partial or complete alteration of both tangible and intangible brand elements[10]. Rebranding may be undertaken at three distinct levels: organizational, business unit, and product[11]. Furthermore, it extends beyond brand elements alone to encompass adjustments across multiple managerial dimensions, including research and development, production, sales, and operations[12]. More broadly, rebranding can be defined as the creation of a new identity and consumer experience for an established company or product, with the primary objective of influencing consumer attitudes, differentiating market position, and fostering growth[13]. The corporate rebranding process typically follows four stages: research and analysis, strategic planning, implementation, and evaluation. Several key components constitute the rebranding process. First, renaming serves as a central mechanism, since an organization's name represents its primary communication tool with both shareholders and consumers. The corporate name embodies reputation and identity, and thus, any renaming must preserve existing positive associations while reflecting the firm's unique characteristics or mission[14]. Given the substantial financial and temporal costs involved, renaming is only justified when the long-term benefits outweigh the expenses[15].

Second, logo redesign functions as a critical aspect of rebranding. A logo visually represents the essence of a brand, ensuring recognition and conveying a signal of quality. In an increasingly visual business environment, logos operate as a universal "language," enabling consumers to identify and interpret brand meaning be-

[9] B. Batbaatar, *Brand Management in the Mongolian Market*, Ulaanbaatar 2017, p. 45.

[10] A. Daly, D. Moloney, *Managing corporate rebranding*, „Irish Marketing Review" 2005, 18(1/2), 30–36.

[11] M. Lambkin, L. Muzellec, *Corporate rebranding: Destroying, transferring or creating brand equity?*, „European Journal of Marketing" 2006, 40(7/8), p. 803–824, https://doi.org/10.1108/03090560610670007.

[12] J. Bi, *Corporate rebranding strategies in a dynamic market*, „Journal of Business Research" 2023, 158, 113042, https://doi.org/10.1016/j.jbusres.2023.113042.

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[14] B. Ali, M. Nazam, R.S.I. Akash, K. Hamid, M. Hashim, S.A. Baig, *Investigating the impact of corporate rebranding on customer satisfaction: Empirical evidence from the beverage industry*, „International Journal of Advanced and Applied Sciences" 2019, 6(4), p. 110–122.

[15] Lambkin & Muzellec, *Corporate rebranding...*, p. 810.

yond verbal communication. Foroudi highlights that a logo reflects organizational values and shapes brand image positively, yet its modification demands significant investment[16]. Third, slogan renewal is also a frequent element of rebranding. A slogan is a concise statement that encapsulates the essence of a brand, instills trust, and communicates reliable information about products or services. Stuart notes that slogans accumulate value over time, and although changing a slogan often entails relatively low risk, an ill-conceived replacement can negatively affect brand positioning[17].

Fourth, color modification represents another important dimension. Colors play a crucial role in consumer recognition, memory retention, and the evocation of emotional responses. They further serve as vehicles for conveying meaning, symbolism, and identity. During rebranding, altering logo colors directly influences recognition, recall, and brand associations[18].

In addition, two related aspects of logo design appropriateness and familiarity have received considerable scholarly attention. Logo appropriateness is inherently subjective and shaped by the creator's perspective[19]. A well-designed logo must be appealing, distinctive, and reflective of the firm's legitimacy, while also being recognizable, meaningful, and emotionally engaging[20]. Importantly, appropriateness does not necessarily equate to design sophistication; rather, the central criterion is alignment between logo design and brand essence[21]. Logo familiarity, on the other hand, develops through exposure to advertising, promotional channels, or interpersonal recommendations prior to purchase[22]. Consumers are more inclined to prefer familiar and reputable brands due to accumulated experience and trust. Empirical evidence suggests that logo familiarity enhances brand distinctiveness, recognition among consumers, and positive brand impressions[23].

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16 P. Foroudi, *The impact of brand communication on brand equity dimensions: The role of brand orientation, brand image, and brand identity*, „Journal of Brand Management" 2014, 21(9), p. 727–744, https://doi.org/10.1057/bm.2014.14.

17 H. Stuart, L. Muzellec, *Corporate makeovers: Can a hyena be rebranded?*, „Journal of Brand Management" 2003, 10(6), p. 472–482, https://doi.org/10.1057/palgrave.bm.2540139.

18 N. Hynes, *Colour and meaning in corporate branding*, „Journal of Brand Management" 2009, 16(7), p. 442–451, https://doi.org/10.1057/bm.2009.12.

19 S. Lin, *Logo design appropriateness and consumer perceptions*, „International Journal of Design" 2021, 15(3), p. 55–68.

20 K. Iversen, *The role of logos in brand perception*, „Journal of Marketing Communications" 2004, 10(2), p. 45–57.

21 C. Molenaar, *E-marketing: Applications of information technology and the internet within marketing*, Routledge, London 2015.

22 Lin, *Logo design appropriateness...*, p. 60.

23 S. Chadwick, *Brand familiarity and consumer response in sport marketing*, „International Journal of Sports Marketing & Sponsorship" 2009, 10(1), p. 1–12.

CONSUMER ATTITUDE

Consumer attitude is generally conceptualized as a psychological tendency expressed through evaluative responses toward a product, service, or brand. It represents a combination of affective, cognitive, and behavioral components, and has been shown to exert a direct influence on purchase decision-making[24]. Positive consumer attitudes toward a brand not only enhance the likelihood of repeat purchases but also foster stronger emotional connections between the consumer and the brand[25]. The study of consumer attitudes is essential for understanding purchasing behavior, market segmentation, and shifts in consumer preferences. Attitudes function as a key determinant of consumer choice, and by extension, provide a critical foundation for the design of marketing strategies and product development[26]. From a managerial perspective, consumer attitudes serve as leading indicators of consumer loyalty, brand trust, and satisfaction, which collectively contribute to long-term business performance. Scholarly research highlights that attitudes are shaped through both direct and indirect experiences. Direct experiences, such as product usage, influence the cognitive and affective components of attitude, while indirect experiences, such as advertising, word-of-mouth communication, and brand image, contribute to the formation of expectations and perceptions[27]. Attitudes are also malleable and may shift over time in response to brand strategies, market dynamics, and broader socio-cultural factors[28].

In the Mongolian context, recent studies emphasize that consumer attitudes are critical for understanding domestic market behavior. For instance, Ganbold notes that consumer attitudes toward eco-friendly and sustainable products are significantly shaped by environmental concern and perceived product value, which in turn affect willingness to pay and brand loyalty[29]. Similarly, Ganbold & Gantulga highlights that in emerging markets such as Mongolia, consumer attitudes are highly sensitive to trust and brand authenticity, making them decisive factors in purchase decisions[30]. These findings underscore the importance of context-specific

[24] I. Ajzen, *The theory of planned behavior*, „Organizational Behavior and Human Decision Processes" 1991, 50(2), p. 179–211, https://doi.org/10.1016/0749-5978(91)90020-T.
[25] R.L. Oliver, *Whence consumer loyalty?*, „Journal of Marketing" 1999, 63(4), p. 33–44, https://doi.org/10.1177/00222429990634s105.
[26] L.G. Schiffman, L.L. Kanuk, *Consumer behavior*, 10th edition, Pearson Education, London 2010.
[27] K.L. Keller, *Strategic brand management: Building, measuring, and managing brand equity*, 4th edition, Pearson, London 2013.
[28] M. Fishbein, I. Ajzen, *Predicting and changing behavior: The reasoned action approach*, Psychology Press, New York 2010.
[29] U. Gantulga, M. Ganbold, E. Uyanga, *Factors Influencing Consumers' Intentions to Purchase Frozen Foods*, „HUMANITAS Zarządzanie" 2024, 4, p. 35–53, https://doi.org/10.5604/01.3001.0054.9659.
[30] U. Gantulga, M. Ganbold, *Factors Influencing Foreign Products Purchase Intention of Mongolian Consumers*, „Asia Marketing Journal" 2022, 24(3), Article 4, https://doi.org/10.53728/2765-6500.1594.

investigations into consumer attitudes, particularly when assessing the outcomes of branding and rebranding strategies. In the context of branding and rebranding, consumer attitudes are particularly significant. A favorable attitude toward a brand strengthens brand equity, increases customer lifetime value, and supports positive word-of-mouth communication. Conversely, negative attitudes may undermine consumer trust, reduce purchase intentions, and create reputational risks for the organization[31]. This duality demonstrates why organizations seeking to reposition themselves through rebranding must carefully manage consumer perceptions to preserve positive attitudes while fostering new associations. Moreover, empirical studies demonstrate a strong relationship between consumer attitudes and satisfaction. While attitudes influence expectations and predispositions toward a product or service, satisfaction reflects the post-purchase evaluation of whether those expectations have been met. Thus, attitudes not only shape consumer decision-making prior to purchase but also exert an indirect effect on long-term loyalty through their interaction with satisfaction and trust[32].

CONSUMER SATISFACTION

Customer satisfaction refers to the post-purchase evaluation of a product or service and is inherently linked to customer expectations. In essence, consumers assess whether the product or service meets or exceeds their prior expectations, which forms the core of satisfaction[33]. Companies that adopt a customer-centric approach aim to maximize satisfaction, as it serves as a key driver of competitive advantage[34]. It is often described as an emotional and evaluative response to consumption experiences[35]. Customer satisfaction is closely related to customer attitude. While attitude reflects consumers' pre-purchase evaluation, emotions, and trust toward a brand, satisfaction stems from the actual consumption experience. A positive attitude encourages purchase decisions, while high satisfaction strengthens and sustains that attitude over time, leading to repeat purchase intentions and brand loyalty[36]. Thus, satisfaction functions as a critical mechanism for transforming favorable attitudes into long-term behavioral commitment.

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[31] A.H. Eagly, S. Chaiken, *The psychology of attitudes*, Harcourt Brace Jovanovich, San Diego 1993.

[32] K.L. Keller, *Strategic Brand Management*, p. 215.

[33] R.L. Oliver, *Cognitive, affective, and attribute bases of the satisfaction response*, „Journal of Consumer Research" 1993, 20(3), p. 418–430, https://doi.org/10.1086/209358

[34] U. Gantulga, D. Dashrentsen, *Factors influence impulsive buying behavior*, „Zeszyty Naukowe Wyższej Szkoły Humanitas. Zarządzanie" 2023, 24(1), p. 9–25, https://doi.org/10.5604/01.3001.0053.4041.

[35] R.M. Stock, *Driver of customer satisfaction: A case study in the banking sector*, „International Journal of Bank Marketing" 2004, 22(2), p. 144–157.

[36] C. Fornell, *A national customer satisfaction barometer: The Swedish experience*, „Journal of Marketing" 1992, 56(1), p. 6–21, https://doi.org/10.1177/002224299205600103.

In the context of corporate rebranding, customer satisfaction plays a pivotal role. Rebranding involves the strategic renewal of a brand's name, logo, identity, or value proposition to reposition it in the market, and this process inevitably influences both customer attitudes and satisfaction[37]. If customers perceive the rebranded identity positively and find that the new product or service experience exceeds expectations, satisfaction increases, reinforcing loyalty and trust. Conversely, if rebranding disrupts consumers' sense of familiarity or fails to deliver on expectations, satisfaction may decline, and attitudes toward the brand may turn negative[38]. Therefore, analyzing the interrelationship between customer attitude and satisfaction is essential for evaluating the effectiveness of rebranding strategies. Firms must not only redesign visual identity but also ensure that rebranding efforts align with customer needs, expectations, and experiences to secure satisfaction and preserve positive attitudes over the long term.

LOGO APPROPRIATENESS

Adams identified several roles of a logo: differentiating the brand from competitors, providing internal focus, enabling clear identification, fostering personal connections with audiences, creating merchandising opportunities, establishing credibility, bringing structure to complexity, and communicating a coherent message[39]. However, appropriateness does not necessarily equate to design sophistication or artistic quality[40]. Instead, the critical consideration is the alignment between the brand's meaning and the logo's form[41]. Molenaar further distinguished between traditional and modern logos based on elements such as shape, font, and color. Importantly, neither style is inherently superior; effectiveness depends on consistency with the brand's intended positioning and target recognition[42].

Doyle & Bottomley examined the role of font appropriateness in brand names, emphasizing that design elements must correspond with brand meaning[43]. Drawing from this perspective, the present study defines logo appropriateness as the extent to which a logo represents both the inherent and immediate values of the brand. Furthermore, this study applies the framework proposed by Bottomley & Doyle, who suggested that logo appropriateness can be assessed across functional and sensory-social dimensions[44].

37 M. Lambkin & L. Muzellec, *Corporate rebranding*..., p. 810.

38 U. Gantulga, M. Ganbold, *Consumer's Personal and Social Factors on Purchase Intentions of Counterfeit Luxury Products*, „Jurnal Ilmiah Peuradeun" 2023, 11(3), p. 1091–1114, https://doi.org/10.26811/peuradeun.v11i3.926.

39 S. Adams, *Logo design love: A guide to creating iconic brand identities*, Peachpit Press, Berkeley 2008.

40 J. Frascara, *The design of public communications: A critical review*, *Design Issues* 5(1) (1988), p. 36–51.

41 C. Molenaar, *E-marketing*…, p. 10.

42 Ibidem, p. XX.12.

43 J.R. Doyle, P.A. Bottomley, *Font appropriateness in the perception of brand logos*, „Journal of Consumer Psychology" 2004,14(2), p. 214–222, https://doi.org/10.1207/s15327663jcp1402_9.

44 P.A. Bottomley, J.R. Doyle, *The interactive effects of colors and products on perceptions of brand logo appropriateness*, „Marketing Theory" 2006, 6(1), p. 63–83, https://doi.org/10.1177/1470593106061263.

LOGO FAMILIARITY

Brand familiarity provides consumers with external cues that can guide their purchasing decisions and is a critical factor influencing consumer behavior. Consumers gradually develop familiarity with a brand through various interactions, such as purchasing or using its products, exposure to advertising, recommendations from others, and engagement with different media channels[45]. Bettman & Sujan argued that consumers tend to show a consistent preference for brands with which they are familiar due to established experiences and associations, whereas unfamiliar brands often receive less preference because consumers have not yet formed strong attitudes toward them[46]. Therefore, enabling consumers to recall associations and memories upon seeing a brand logo can significantly increase the likelihood of purchase, highlighting why brand managers strive to enhance logo familiarity.

Melewar & Saunders emphasized that standardizing a company's visual system contributes to greater product and brand familiarity[47]. Similarly, Kent & Allen suggested that effective use of logos and brand colors facilitates communication with consumers, thereby strengthening brand attention and perceived advantages[48]. Logos that appear familiar are often processed more quickly by consumers and can influence perceptions of brand or product quality[49]. Consequently, logo familiarity not only enhances a logo's effectiveness[50] but also benefits the brand and generates additional positive impacts[51]. Furthermore, Peterson proposed that consumers' familiarity with a logo increases their sensitivity to modifications; in other words, the more familiar consumers are with a logo, the more likely they are to notice changes in its design[52].

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45 S. Lin, *Logo design appropriateness...*, p. 60.

46 R.H. Fazio, *How do attitudes form? A functionalist perspective*, In: R.E. Petty, T.M. Ostrom & T.C. Brock (Eds.), *Cognitive Responses in Persuasion*, Erlbaum, Hillsdale 1986, p. 204–243.

47 T.C. Melewar, J. Saunders, *Global corporate visual identity systems: Standardisation, control and benefits*, „International Marketing Review" 1998, 15(4), p. 291–308, https://doi.org/10.1108/02651339810227409.

48 R.J. Kent, C.T. Allen, *Competitive interference effects in consumer memory for advertising: The role of brand familiarity*, „Journal of Marketing" 1994, 58(3), p. 97–105, https://doi.org/10.1177/002224299405800307.

49 P.W. Henderson, J.A. Cote, S.M. Leong, B. Schmitt, *Building strong brands in Asia: Selecting the visual components of image to maximize brand strength*, „International Journal of Research in Marketing" 2003, 20(4), p. 297–313, https://doi.org/10.1016/j.ijresmar.2003.03.001.

50 P. Van der Lans, E. Van den Broek, M. Wedel, *Consumer responses to brand logo changes*, „Marketing Science" 2009, 28(2).

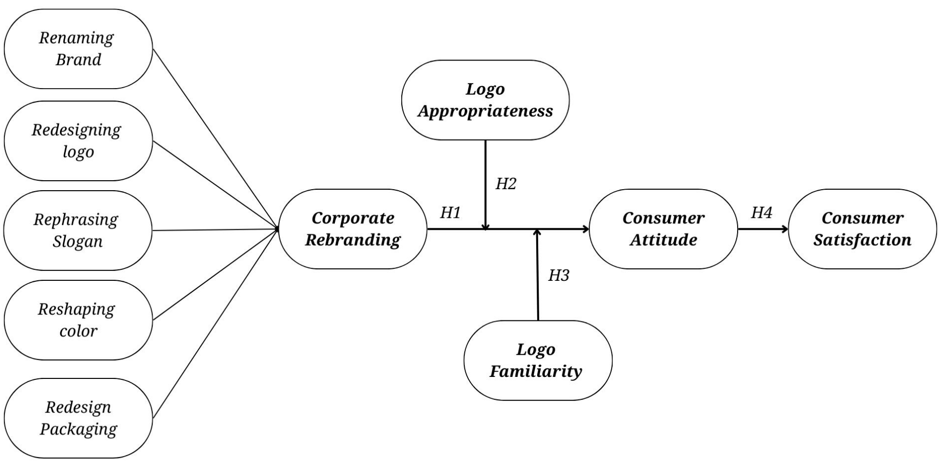
51 L.E. Hem, N.M. Iversen, *Logo design: Effects on brand recognition and consumer perception*, „Journal of Brand Management" 2004, 11(5).

52 R.A. Peterson, K.M., Smith, P.C. Zerrillo, *The sensitivity of consumers to logo changes: The moderating role of familiarity*, „Journal of Brand Management" 2015, 22(3), p. 241–256, https://doi.org/10.1057/bm.2015.2.

RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

The research model of this study was developed based on prior literature and empirical findings relevant to the topic, and it consists of four main constructs. Corporate rebranding is conceptualized as the independent variable, which includes dimensions such as renaming, redesigning the logo, revising the slogan, changing the color scheme, and altering the overall appearance of branches. To better explain the relationship between rebranding and consumer satisfaction, consumer attitude is introduced as a mediating variable. In addition, logo appropriateness and logo familiarity are incorporated as moderating variables, as they may strengthen or weaken the effects of rebranding on consumer perceptions. Finally, consumer satisfaction is considered the dependent variable, representing the ultimate outcome influenced by both rebranding strategies and consumer attitudes.

Figure 1. Research model
Rysunek 1. Model badawczy



Source: own research.

Based on the conceptual framework of this study and grounded in prior theoretical and empirical research, the following four hypotheses are proposed:

Hypothesis 1 (H1): Corporate rebranding is expected to have a positive effect on consumer attitudes toward the use of the company's products or services.

Hypothesis 2 (H2): The perceived appropriateness of a company's new logo moderates the relationship between corporate rebranding and consumer attitudes.

Hypothesis 3 (H3): The familiarity of a company's new logo moderates the relationship between corporate rebranding and consumer attitudes.

Hypothesis 4 (H4): Positive consumer attitudes have a direct and positive effect on consumer satisfaction.

RESEARCH METHODOLOGY

SAMPLING AND PARTICIPANTS

According to official statistics, the number of active mobile subscribers in Mongolia has reached approximately 4.8 million, of which 36.9% are customers of Mobicom (MPT, 2024). To test the proposed hypotheses, a primary survey was conducted among Mobicom subscribers aged 21 and above. Participants were selected using a random sampling method to ensure representativeness and minimize selection bias. The first question of the survey was specifically designed to verify whether the respondent was a Mobicom user or not. Respondents who indicated that they were not Mobicom users were considered ineligible, and their responses were excluded from the analysis. This screening procedure ensured that only relevant participants contributed to the dataset, thereby enhancing the validity and reliability of the research findings.

SAMPLE SIZE

This study was conducted in the period between 21st July and 31st August 2025. A randomly selected sample of 400 users participated in this study. A total of 600 questionnaires were distributed, and 400 were returned. Among these, 200 questionnaires were excluded from the analysis, either because they were incomplete or because the respondents were users of other telecommunication service providers. Table 1 shows the frequencies and percentages of study sample characteristics.

SURVEY INSTRUMENT

The questionnaire was developed by adapting items from prior international studies related to the research topic. Drawing on established research frameworks, the survey covered five dimensions relevant to corporate rebranding, logo perception, consumer attitude, and consumer satisfaction. Responses were measured using a five-point Likert scale, ranging from "strongly disagree" to "strongly agree," allowing for the quantification of participants' attitudes, perceptions, and satisfaction levels. All questions were carefully tailored to reflect the context of Mobicom and the Mongolian mobile market while maintaining alignment with validated international survey instruments.

DATA COLLECTION PROCEDURE

Data were collected electronically via Google Forms to maximize accessibility and response rates. Prior to the main survey, a pilot test was conducted to assess the clarity, reliability, and validity of the survey items. Feedback from the pilot study was used to refine the phrasing of questions and improve respondents' comprehension.

Table 1. Questionnaire items
Tabela 1. Pozycje kwestionariusza

Factors		Code	Questionnaires	References
Corporate Rebranding	Renaming Brand	CR	1. The name of [brand name] is likable 2. The name of my selected [brand name] is easily recognizable	Ali et al., 2019
	Redesi-gning logo		1. The logo of [brand name] is visually appealing 2. The logo of [brand name] is easy to recall	
	Rephra-sing Slogan		1. The slogan of my selected [brand name] is easy to recognizable 2. The slogan of [brand name] is interesting	
	Reshaping color		1. The color of [brand name] is attractive 2. The color of [brand name] is visually appealing	
	Redesign Packaging		1. Designs of the packaging are stylish and fashionable 2. Designs of the packaging have unique features	
Logo Appropriateness		LA	1. The new logo is more suitable for [brand name] than the old one 2. In general, the brand image of [brand name] is highly suitable for its logo design 3. The new [brand name] logo is appropriate	Doyle & Bottomley, 2004, Bottomley & Doyle, 2006,
Logo Familiarity		LF	1. I'm familiar with both the old and new logos of [brand name] 2. I'm acclimated to the new logo of [brand name] 3. I know the new logo of [brand name]	Foroudi et al., 2014 Hirschman, 1986
Consumer Attitude		CA	1. I think it's a brand that suits me. 2. I think it's a brand with a good image 3. It's a brand which offers good performance products.	Chiu et al., 2009

Consumer Satisfaction	CS	1. I am satisfied with redesigning the logo of [brand name] 2. I am satisfied with redesign the packaging of [brand name] 3. I am satisfied with the rebranding of the [brand name] 4. I will recommend this brand to others	Ali et al., 2019

Source: own research.

RESULTS

Information about the participants of the study was analyzed by four demographic questions: age, gender, education level, and household income. 64% of respondents were between up to 30 years old and 68.5% were women. In terms of education level, 60% have a bachelor degree, and 43% percent have a monthly household income of 2,000,000-4,000,000 MNT.

Table 2. Demographic variables
Tabela 2. Zmienne demograficzne

		Number	Percent
Age	21-30 years old	256	64.0
	31-40 years old	85	21.3
	41-50 years old	40	10
	51-60 years old	19	4.7
Gender	Female	274	68.5
	Male	126	31.5
Level of education	High school	65	16.5
	Bachelor	241	60.3
	Masters	86	21.5
	Other	7	1.8
Household income	up to 2 million	94	23.5
	2.000.001-4.000.000	172	43.0
	4.000.001-6.000.000	85	21.3
	More than 6 million	49	12.3

Source: own research.

The Cronbach's α coefficient value of more than 0.7 indicates that the questions are very relevant and practical for determining the component.

Table 3. Cronbach alpha
Tabela 3. Wskaźnik alfa Cronbacha

	Factors	Number of items	Cronbach alpha
1	Corporate rebranding	10	.860
2	Logo familiarity	3	.889
3	Logo appropriateness	3	.745
4	Attitude	3	.838
5	Satisfaction	4	.857

Source: own research.

In order to determine the adequacy of the sample, the KMO test is performed, as shown above, and the sample is sufficiently representative and statistically significant.

Table 4. KMO and Bartlett's Test
Tabela 4. Test KMO i Bartletta

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.866
Bartlett's Test of Sphericity	Approx. Chi-Square	4823.511
	df	399
	Sig.	.000

Source: own research.

Table 5. Regression analysis
Tabela 5. Analiza regresji

Regression analysis							
	Independent variables	B	SE	Beta	t	P	R^2
Dependent variables: satisfaction	Constant	0.131	.129		1.010	.313	.536
	Corporate rebranding	.237	.053	.184	4.491	.000	
	Logo familiarity	.249	.038	.265	6.559	.000	
	Logo appropriateness	.130	.037	.133	3.471	.001	
	Attitude	.410	.025	.471	16.134	.000	

Source: own research.

The hypotheses were tested using SPSS, regression analysis and the results provided strong support for all proposed relationships. Hypothesis 1 (H1) predicted that corporate rebranding would have a positive effect on consumer attitudes toward the company's products or services. The results confirmed this relationship, indicating that rebranding initiatives significantly improve consumer attitudes (β = [.184], $p < 0.000$). Hypothesis 2 (H2) proposed that the perceived appropriateness of a company's new logo moderates the relationship between corporate rebranding and consumer attitudes. The findings supported this hypothesis, showing that when the new logo is perceived as appropriate, the positive effect of corporate rebranding on consumer attitudes is strengthened (β = [.133], $p < 0.001$). Hypothesis 3 (H3) suggested that the familiarity of the company's new logo moderates the relationship between corporate rebranding and consumer attitudes. The results confirmed this effect, demonstrating that higher logo familiarity further enhances the positive impact of rebranding on consumer attitudes (β = [.265], $p < 0.000$). Hypothesis 4 (H4) predicted that positive consumer attitudes would have a direct and positive effect on consumer satisfaction. This hypothesis was also supported, with the results revealing that favorable consumer attitudes significantly contribute to greater satisfaction (β = [.471], $p < 0.000$).

Overall, all four hypotheses were supported, confirming the conceptual model proposed in this study.

DISCUSSION

This study aimed to examine the factors influencing consumer satisfaction toward corporate rebranding, and the findings confirm that corporate rebranding has a positive effect on consumer attitudes toward the company's products and services, confirming Hypothesis 1. Additionally, both logo appropriateness and logo familiarity were found to moderate this relationship, lending support to Hypotheses 2 and 3. Finally, Hypothesis 4 was supported, as consumer attitudes were shown to directly and positively influence consumer satisfaction. Collectively, these results highlight the multidimensional nature of rebranding and underscore the importance of visual identity elements in shaping consumer perceptions. The results are consistent with prior research suggesting that rebranding initiatives can enhance consumer perceptions and strengthen brand-consumer relationships (Shen & Lin, 2021). This study extends previous work by empirically demonstrating that the success of corporate rebranding depends not only on the act of rebranding itself but also on the symbolic value embedded in the new logo. When consumers perceive a logo to be both appropriate and familiar, they are more likely to form favorable attitudes toward the brand. This finding suggests that visual identity plays a more strategic role in rebranding than has often been acknowledged in the literature. Theoretically, the study contributes to branding research by emphasizing the importance of moderating factors such as logo appropriateness and familiarity that influence the effectiveness of corporate rebranding. These findings support the view that brand elements function as psychological cues that shape consumer evaluations and behaviors. In particular, this research provides evidence that consumer attitudes serve as a mediating mechanism linking rebranding initiatives with overall satisfaction, thereby reinforcing the attitudinal foundations of brand loyalty. From a managerial perspective, the study offers several practical implications. Companies planning to undergo rebranding should recognize that consumer acceptance is strongly influenced by the perceived appropriateness and familiarity of the new brand elements. Rebranding strategies that disregard consumer perceptions may risk alienating the target market. Managers are therefore encouraged to conduct pre-launch consumer testing, carefully align logo designs with brand identity, and communicate the symbolic meaning of the new identity clearly to ensure smoother transitions. By doing so, organizations can enhance consumer attitudes and satisfaction, ultimately securing stronger brand loyalty. Despite its contributions, the study has several limitations. The analysis focused on a single telecommunication company in Mongolia, which may restrict the generalizability of the findings. Also, one of the key limitations of this research is the relatively short data collection period. Since consumer perceptions and behaviors may evolve over time, the findings should be interpreted with caution and may benefit from validation through longitudinal studies. Future research could extend this study by examining rebranding effects across different industries, cultural contexts, or longitudinally to capture how consumer attitudes evolve over time. Additionally, future studies could incorporate other potential moderators such as consumer innovativeness, cultural symbolism, or social media influence to gain a deeper understanding of rebranding effectiveness.

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The contribution of particular co-authors to preparation of the paper:
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HUMANITAS Zarządzanie 2025 (3), s. 29-41

Original Article

Sources of funding for publications: *own founds*

Received: 20.06.2025
Accepted: 20.08.2025/25.08.2025
Published: 30.09.2025

DOI: 10.5604/01.3001.0055.2894

Authors' Contribution:
(A) Study Design (projekt badania)
(B) Data Collection (zbieranie danych)
(C) Statistical Analysis (analiza statystyczna)
(D) Data Interpretation (interpretacja danych)
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CULTURAL IMPACT ON MANAGEMENT IN MULTINATIONAL CORPORATIONS – A GLOBALIZATION PERSPECTIVE

WPŁYW KULTURY NA ZARZĄDZANIE W MIĘDZYNARODOWYCH KORPORACJACH – PERSPEKTYWA GLOBALIZACJI

Abstract: Multinational companies' (MNCs') operational setting has been significantly changed by globalization, which has resulted in an increased level of cultural diversity among their global workforces. This study examines how cultural diversity impacts management practices in multinational corporations (MNCs), evaluating how globalization both enables global expansion and creates difficulties with cross-cultural interactions. MNCs' long-term performance depends on their ability to comprehend and manage differences in culture as they continue to operate in multiple cultural contexts.
This research places emphasis on the benefits and difficulties of managing culturally diverse teams. Although diversity encourages innovation, creativity, and a broader understanding of the market, it may also lead to communication issues, conflicting styles of leadership, and difficulties with organizational cohesion. The study examines how variations in individualism versus collectivism, power distance, uncertainty avoidance, and masculinity versus femininity impact managerial practices, drawing on theoretical frameworks like Hofstede's cultural dimensions. It emphasizes how crucial cultural intelligence, flexibility, and inclusive leadership are to fostering successful cross-cultural cooperation in multinational

corporations. The paper additionally examines typical issues including leadership styles, language barriers, and different work ethics, highlighting the necessity for MNCs to create strategic plans to reduce miscommunications and use diversity as a competitive advantage. Furthermore, this study explores current globalization trends and how they affect MNC management. The increasing use of remote work and digital transformation have led to changes in organizational structures and approaches to leadership. To be competitive and manage diverse cultures, multinational corporations are increasingly utilizing hybrid organizational structures that discover a compromise between local responsiveness and international unity. Leaders must have an agile and empathetic mindset in order to establish a diverse work environment that values a variety of opinions and fosters cross-cultural communication.
The findings of the research highlight the significance of proactive management and cultural awareness in addressing the challenges posed by globalization. Seeing cultural variety as an opportunity rather than a barrier may help multinational companies make better decisions, be more creative, and succeed more globally. This paper draws the conclusion that, for modern multinational corporations, adjusting to cultural diversity is not only essential, but also a major factor in success.

Keywords: globalization, cultural diversity, cross-cultural management, Hofstede's Cultural Dimensions, multinational corporations

Streszczenie: Globalizacja znacząco zmieniła warunki działania międzynarodowych korporacji (MNC), powodując wzrost różnorodności kulturowej wśród ich globalnej siły roboczej. Przeprowadzone badanie analizuje wpływ różnorodności kulturowej na praktyki zarządzania w międzynarodowych korporacjach (MNC), oceniając, w jaki sposób globalizacja umożliwia ekspansję na skalę światową, a jednocześnie stwarza trudności w kontaktach międzykulturowych. Długoterminowe wyniki MNC zależą od ich zdolności do zrozumienia różnic kulturowych i zarządzania nimi w miarę kontynuowania działalności w wielu kontekstach kulturowych. W niniejszym badaniu położono nacisk na korzyści i trudności związane z zarządzaniem zespołami zróżnicowanymi kulturowo. Chociaż różnorodność sprzyja innowacyjności, kreatywności i szerszemu zrozumieniu rynku, może również prowadzić do problemów komunikacyjnych, konfliktów stylów przywództwa i trudności w utrzymaniu spójności organizacyjnej. W badaniu analizuje się, w jaki sposób różnice w indywidualizmie i kolektywizmie, dystansie władzy, unikaniu niepewności oraz męskości i kobiecości wpływają na praktyki zarządzania, opierając się na ramach teoretycznych, takich jak wymiary kulturowe Hofstede. Podkreśla się w nim, jak kluczowe znaczenie dla pomyślnej współpracy międzykulturowej w międzynarodowych korporacjach mają inteligencja kulturowa, elastyczność i przywództwo integracyjne. W artykule przeanalizowano również typowe problemy, takie jak style przywództwa, bariery językowe i różne etyki pracy, podkreślając konieczność tworzenia przez międzynarodowe korporacje strategicznych planów mających na celu ograniczenie nieporozumień komunikacyjnych i wykorzystanie różnorodności jako przewagi konkurencyjnej.
Ponadto w niniejszym badaniu analizuje się aktualne trendy globalizacyjne i ich wpływ na zarządzanie międzynarodowymi korporacjami. Coraz powszechniejsze stosowanie pracy zdalnej i transformacji cyfrowej doprowadziło do zmian w strukturach organizacyjnych i podejściu do przywództwa. Aby być konkurencyjnymi i zarządzać różnorodnymi kulturami, międzynarodowe korporacje coraz częściej stosują hybrydowe struktury organi-

zacyjne, które stanowią kompromis między lokalną responsywnością a międzynarodową jednością. Liderzy muszą wykazywać się elastycznym i empatycznym sposobem myślenia, aby stworzyć zróżnicowane środowisko pracy, w którym ceni się różnorodność opinii i wspiera komunikację międzykulturową.
Wyniki badań podkreślają znaczenie proaktywnego zarządzania i świadomości kulturowej w podejmowaniu wyzwań związanych z globalizacją. Postrzeganie różnorodności kulturowej jako szansy, a nie przeszkody, może pomóc międzynarodowym firmom w podejmowaniu lepszych decyzji, zwiększeniu kreatywności i osiągnięciu większego sukcesu na arenie międzynarodowej. W niniejszym artykule stwierdzono, że dla współczesnych międzynarodowych korporacji dostosowanie się do różnorodności kulturowej jest nie tylko niezbędne, ale także stanowi główny czynnik sukcesu.

Słowa kluczowe: globalizacja, różnorodność kulturowa, zarządzanie międzykulturowe, wymiary kulturowe Hofstede'a, międzynarodowe korporacje

INTRODUCTION

Globalization is an ongoing, continuous process, an active verb, that has a direct impact on locales that are internationally interrelated. As a result of widespread migration and technological advancements, the world is becoming more standardized and integrated[1]. Globalization, the process of increased interconnectedness among nations through trade, communication, and technology, has fundamentally reshaped the way businesses operate. Multinational corporations (MNCs) are at the forefront of this transformation, navigating diverse cultural landscapes while pursuing global strategies. Intercultural considerations are not close to being wiped off the face of the earth through the supposed progress toward globalization[2]. This assignment examines the cultural impacts on MNC management, focusing on trends in globalization, cultural dimensions, challenges, and strategies.

RESEARCH METHODOLOGY

A methodical literature review approach combined with qualitative synthesis was used in this study. Using controlled keywords (such as „multinational company", „cross-cultural management", and „globalization"), electronic searches were conducted mainly in Scopus and Web of Science. Preference was given to peer-reviewed journals, books, and high-quality reviews that were published in English.

The results were projected onto emerging themes (leadership, communication, HR, virtual teams) and dominant cultural paradigms (e.g., Hofstede, Trompena-

1 H. Menand, *Globalization and education: 21st century instructional practices for urban teachers*, The University of North Carolina, Charlotte ProQuest Dissertations & Theses, 2013, p. 31-32.
2 P. Verluyten, *A Course in Intercultural Communication*, Acco, Leuven 1996.

ars) using a combination of deductive and inductive thematic coding. For more conceptual validity, the results were narratively synthesized using triangulation of source types. While recognizing its purpose as secondary qualitative synthesis rather than primary empirical study, the method creates an integrated, theory-informed narrative.

GLOBALIZATION AND CULTURAL DIVERSITY IN MNCS

THE CONNECTION BETWEEN GLOBALIZATION AND MNCS

Globalization has profoundly influenced the operations and strategies of multinational corporations (MNCs), enabling them to widen their reach into international markets. As globalization expands, it intertwines with the operations of MNCs, fostering interconnected supply chains, foreign investments, and competitive business landscapes.

The Role of Globalization in Expanding International Markets

MNCs can now access a variety of markets due to globalization's easing of the removal traditional trade barriers like tariffs and protectionist policies. Globalization fosters the cross-border movement of capital, information, goods, and services by uniting economies. MNCs take use of this connected environment to increase profitability, optimize resources, and reach new customer bases[3].

For example, firms like Coca Cola or Mc Donald's have successfully established operations worldwide by catering to varying consumer preferences while capitalizing on standardized production techniques[4]. The interdependence between globalization and MNCs has created a cycle of growth and opportunity, with globalization offering the framework and MNCs driving implementation and innovation.

Drivers of Globalization

Several factors have propelled globalization, strengthening the global networks essential for MNCs' operations:

1. Technological Advancements

Technological innovations in communication, transportation, and information technology have been pivotal in reducing the costs and complexities of international trade and have made it easier to argue for the link between geography and growth[5].

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[3] P.J. Buckley, P.N. Ghauri, *Globalisation, economic geography and the strategy of multinational enterprises*, „Journal of International Business Studies" 2004, p. 81-98.
[4] P. Verluyten, *A Course in Intercultural…*
[5] P J. Buckley, P.N. Ghauri, *Globalisation, economic geography…*, p. 81-98.

2. International Trade Agreements

Agreements reduce trade barriers, harmonize regulations and create safe environments for MNCs to operate across regions[6]. We must consider policies and agreements of trade liberalization which brought more free trade, such as the General Agreement on Tariffs and Trade (GATT), the World Trade Organization (WTO), and regional trade blocs like the European Union (EU) and the North American Free Trade Agreement.

3. Reduced Trade Barriers

The decline of trade barriers, including tariffs, import quotas, and bureaucratic restrictions, has opened opportunities for MNCs[7]. This liberalization allows MNCs to establish subsidiaries, access cheap labor and raw materials.

CULTURAL DIVERSITY IN MNC WORKFORCES

The idea of diversity is complex, multidimensional, and ever-changing. It covers a broad spectrum of personal characteristics, such as gender, race, sexual orientation, religion, and physical ability[8].

Effectively managing diversity is a crucial challenge for contemporary organizations, as it profoundly influences workplace ethics, conflict resolution, and overall organizational performance. Diversity management extends beyond the mere recruitment and representation of a diverse workforce; it requires fostering an inclusive environment where all individuals feel respected and appreciated. Avoiding diversity is neither practical nor sustainable, as doing so can harm organizational operations. This stance is not only contrary with international legal frameworks but also disregards the consequential benefits that organizations can gain by successfully managing diversity. Therefore, adopting a well-structured approach to diversity management is fundamental[9].

Globalization has led to a marked diversification of workforces within multinational corporations (MNCs). Employees from diverse cultural backgrounds collaborate within shared professional environments, bringing exclusive perspectives and skills. While this diversity sustains innovation and competitiveness, it also shows challenges related to cultural differences.

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[6] Ibidem, p. 81-98

[7] P.J. Buckley, P.N. Ghauri, *Globalisation, economic geography and the strategy of multinational enterprises*, „Journal of International Business Studies" 2004, p. 81-98.

[8] A.T. Mehari, Z.A. Birbirsa, G.N. Dinber, *The effect of workforce diversity on organizational performance with the mediation role of workplace ethics: Empirical evidence from food and beverage industry*, PLoS One, 2024.

[9] A.T. Mehari, Z.A. Birbirsa, G.N. Dinber, *The effect of workforce diversity…*

GLOBALIZATION AND WORKFORCE DIVERSITY

As globalization broadens the geographic reach of MNCs, companies increasingly recruit talent from around the world. Globalization has also required cross-border collaboration, empowering employees from different countries to devote themselves to the shared goals of an MNC[10].

Cultural diversity within MNCs offers more than a representation of global society, it provides a strategic advantage. Diverse teams are better equipped to identify emerging trends, establish localized solutions, and communicate productively across markets[11].

Benefits of Diversity

1. Innovation and Creativity

Diverse teams bring a wealth of perspectives and approaches to problem-solving, increasing innovation and creativity. Employees from different cultural backgrounds often think variously, advancing the development of innovative ideas and solutions[12].

2. Broader Perspectives

Employees from different cultural backgrounds contribute to a wider understanding of global markets. This diversity facilitates MNCs to handle cultural nuances and develop efficiently. For instance, McDonald's has successfully adapted its menus to local tastes, benefiting from insights provided by its diverse workforce[13].

3. Enhanced Problem-Solving

Diverse teams often approach challenges from multiple perspectives, leading to more effective and comprehensive solutions. Research indicates that teams with higher cultural diversity outperform homogeneous teams in decision-making processes[14].

Challenges of Managing Cultural Diversity

Managing cultural diversity creates several challenges in multinational corporations (MNCs), especially in workplace dynamics, communication and leadership. Communication style differences often arise as cultural norms determine how people express themselves. For example, employees from high-context cultures like Japan may tend to indirect communication, which can cause misunderstandings when interacting with coworkers from low-context cultures such as Germany or the United States, where

[10] G. Hofstede, *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations*, Sage Publications, Thousand Oaks, CA, 2001.

[11] D.A. Thomas, R J. Ely, *Making differences matter: A new paradigm for managing diversity*, „Harvard Business Review" 1996, p. 79-90.

[12] T.H. Cox, S. Blake, *Competitiveness, Managing Cultural Diversity: Implications for Organizational*, „The Executive" 1991, p. 45-56.

[13] P. Verluyten, *A Course in Intercultural…*

[14] R.J. Ely, D.A. Thomas, *Cultural Diversity at Work: The Effects of Diversity Perspectives on Work Group Processes and Outcomes*, 'Administrative Science Quarterly" 2001, p. 229-273.

directness is the norm[15]. Besides, there are visible differences in work ethics and procedures. MNCs must keep a balance between individualistic and collectivist cultures in order to promote cohesive and effective teams. The expectations of leadership may also vary because workers from egalitarian cultures prefer collaborative management methods, while the ones from hierarchical cultures like top-down decision-making[16]. Successfully managing these differences requires awareness and adaptability to use the benefits of cultural diversity while decreasing possible conflicts.

CULTURAL DIMENSIONS AND THEIR IMPACT ON MANAGEMENT

One of the most significant business examples of modernity has been the management of diversity in businesses. Depending on their values and practical qualities, many countries are addressing this issue in different ways, with varying approaches and levels of development. It is believed that, given all the potential explanations for this discrepancy, the variations in national cultural norms can indicate a tenable explanation for the variations in diversity management strategies across various nations[17].

HOFSTEDE'S CULTURAL DIMENSIONS

Hofstede's cultural dimensions give a framework for understanding cultural differences and their effect on management practices. This framework identifies key dimensions that influence organizational behavior and leadership styles.

1. Individualism vs. Collectivism

Individualist cultures prioritize personal goals and independence, while collectivist cultures emphasize group cohesion and shared objectives[18]. In societies where people value independence, everyone is expected to have the same rights. But in communities that focus on working together, it is important to take care of everyone's needs, including those who might be in the minority or not as well represented[19]. For example, in individualist cultures like the United States, decision-making is often decentralized, with a focus on individual accountability. In contrast, collectivist cultures, such as Japan, value consensus-based decision-making, where the collective interest supersedes personal gain[20].

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15 G. Hofstede, *Culture's Consequences: Comparing Values, Behaviors…*

16 F. Trompenaars, C. Hampden-Turner, *Riding the Waves of Culture: Understanding Diversity in Global Business*, Hachette UK, London 2020.

17 A. Sperancin, *The association of cultural dimensions with the practice of diversity management*, „Journal of Economy and Society" 2010, p. 96-110.

18 G. Hofstede, *Culture's Consequences: Comparing Values, Behaviors…*

19 A. Sperancin, *The association of cultural dimensions…*, p. 96-110.

20 G. Hofstede, *Culture's Consequences: Comparing Values, Behaviors…*

2. Power Distance

Power distance measures the degree of inequality in a society, the acceptance of hierarchical authority within a society. We can interpret this phrase in terms of diversity management as meaning that the more difficult it is to implement diversity management, the higher the power distance index level. High power distance cultures expect leaders to maintain authority and make top-down decisions. Equal treatment is compromised and the likelihood of fostering prejudice in society rises when disparities persist and are widely tolerated[21].

3. Uncertainty Avoidance

This dimension describes the level of tolerance in uncertain and unknown situations in society. In order to reduce their stress and anxiety, cultures that are adverse to uncertainty attempt to minimize the likelihood and risks by enforcing laws and strict regulations as well as implementing safety procedures. Strong uncertainty avoidance, according to Hofstede, can result in a high level of nationalism and minority representation since it causes intolerance for what is different. Because it would require numerous adjustments and modifications to integrate minorities in the workforce, having a strong uncertainty avoidance can therefore be a barrier to the implementation of diversity policy[22].

4. Masculinity vs. Femininity

The definition of this dimension represents differences in the gender social roles. When it comes to men's assertiveness, relationships, and quality of life, the division of roles is evidently different in masculine civilizations. In feminine civilizations, where men and women have equal roles at home and at work, equality is much more evident. Spending more attention on marginalized minority groups can help battle discrimination and prejudices because of the feminine ideals of prioritizing people and relationships and emphasizing equality above equity. Masculine cultures emphasize competition, achievement, and material success, while feminine cultures value quality of life, empathy, and cooperation. These differences significantly influence leadership styles, with masculine cultures favoring assertive and competitive leaders, while feminine cultures lean toward participative and inclusive leadership[23]. A framework for comprehending cultural differences in organizational behavior is given by Hofstede's cultural dimensions. For example, hierarchical leadership is typical in high-power-distance cultures, but participative approaches are preferred in low-power-distance cultures. In a similar way, collectivist cultures place a higher priority on social harmony than many Western nations do on individualism. MNCs can adjust management techniques to conform to local cultural norms by examining these characteristics.

21 A. Sperancin, *The association of cultural dimensions…*, p. 96-110.
22 Ibidem, p. 96-110.
23 G. Hofstede, *Culture's Consequences: Comparing Values, Behaviors…*

CROSS-CULTURAL CHALLENGES

Cultural differences frequently present difficulties for cross-cultural interactions in multinational organizations. Because verbal and nonverbal signs might be misinterpreted, difficulties with communication are frequent. Additionally, communication and coordination in international teams are made more difficult by time zone and language issues. Effective management and technological solutions are necessary to handle these problems. Language proficiency clearly has varying effects on expatriates' integration depending on whether English or another language is spoken in the host nation. Managers and other employees working in multinational settings frequently speak English. Many authors share the opinion that an individual's integration and the effectiveness of their expatriation are unaffected by the cultural differences between their home country and the country of origin[24].

Cross-cultural challenges can arise from differences in communication approaches, work ideals, and leadership expectations. Unconscious prejudices may hinder inclusivity, and time zones and language difficulties can make collaboration more difficult. To prevent pricey misunderstandings, MNCs must proactively address these problems and promote an atmosphere of respect and understanding.

Effective management in multinational corporations requires an understanding of and attention to cultural aspects. Organizations can foresee cultural obstacles and create plans for productive cross-cultural cooperation by utilizing frameworks such as Hofstede's dimensions. MNCs can successfully traverse cultural diversity by fostering inclusivity, adopting glocalized processes, and training executives in cultural intelligence. This ensures organizational adaptation and creativity.

TRENDS IN GLOBALIZATION

Globalization was impacted by the COVID-19 pandemic, which led to changes in supply chains, digital transformation, and regionalization. Furthermore, the pandemic increased the adoption of digital technology, resulting in a greater than previously observed use of digital payments, online communication tools, and e-commerce platforms. These modifications are a reflection of a redesigned global corporate environment that prioritizes adaptability and creativity.

Over the past decade, there has been a dramatic shift in the trends of globalization. Before COVID-19, international trade and technological integration were the main drivers of economic interdependence. Regionalization and supply chain

[24] A.D. Engle, Z. Szeiner, S. Molnár, J. Poór, *Key Factors of Corporate Expatriates' Cross-Cultural Adjustment – an Empirical Study*, „Central European Business Review" 2024, p. 39-58.

localization have become popular topics since the outbreak. As global priorities change, MNCs are likewise adjusting to the growing demands for sustainability and digital transformation.

TRENDS SPECIFIC TO MNCS

Emphasis on Remote Work and Virtual Teams

Technological advancements have enabled remote work and the formation of virtual teams. Platforms like Zoom and Microsoft Teams facilitate global collaboration, reducing the need for physical presence. This trend has allowed MNCs to access talent globally while minimizing costs associated with office spaces and travel[25].

Adaptation to Changing Consumer Behaviors

Consumer preferences have shifted dramatically in recent years, with increased demand for personalized products, digital services, and sustainability.

MNCs are leading the way in the changing tendencies of globalization. Since remote work and virtual collaboration are now commonplace, new leadership strategies are needed. Initiatives related to sustainability and corporate social responsibility are becoming crucial, reflecting the desire of consumers for moral behavior. To stay competitive in ever-changing markets, multinational corporations must also strike a balance between localized solutions and global initiatives.

IMPACT OF TRENDS ON MNC MANAGEMENT

Shift in Leadership Approaches

To effectively manage diverse and dispersed teams, modern MNC leaders need to be empathetic, flexible, and inclusive. For example, leaders need to create cross-cultural team cohesion while overcoming the difficulties of virtual communication[26].

Hybrid Organizational Structures

MNCs are increasingly using hybrid structures that strike a compromise between local responsiveness and global consistency. This method enables businesses to keep consistent strategy while adjusting to the various cultural and legal differences across several areas[27].

[25] M. Błaszczyk, M. Popović, K. Zajdel, R.S. Zajdel, *Implications of the COVID-19 Pandemic on the Organization of Remote Work in IT Companies: The Managers' Perspective*, „Sustainability" 2023.

[26] F. Trompenaars, C. Hampden-Turner, *Riding the Waves of Culture: Understanding Diversity in Global Business*, Hachette UK, London 2020.

[27] F. Trompenaars, C. Hampden-Turner, *Riding the Waves of Culture…*

CONCLUSION

Globalization has had a huge impact on cultural diversity within multinational corporations (MNCs), ending in new organizational strategies and managerial practices. Global market connectivity has opened the door for opportunities for innovation, economic growth, and cross-cultural interactions. Although, it has made it more difficult to manage multicultural teams, navigate cross-cultural relationships, and align worldwide plans with regional fittings.

The most important takeaway from globalization's impact on multinational corporations is the essential need for cultural awareness. The importance of cultural awareness is a key takeaway from the consequences of globalization on MNCS. To be aware of cultural eccentricities can help policymakers enhance decision-making, create cooperation, and drive company success. Businesses that accept diversity are better positioned to address today's issues and fully extend the potential of their multinational workforces.

Moving on, the role of MNCs in supporting global cultural integration is set to expand. MNCs will play a bigger impact in stimulating intercultural understanding as globalization shifts to a more regionalized and digitalized standard. They will have the chance to advance innovation, diversity, and sustainability, bringing corporate objectives into line with social well-being. By means of the proper tactics, multinational corporations may establish settings where cultural diversity is a strength, opening the door to a more united and connected global economy.

MNCs must keep improving their reactions to cultural diversity in the upcoming years, not as a problem but as a key component of their worldwide strategy. By doing so, they will not only help themselves succeed but also create a society where cooperation knows no bounds and cross-cultural understanding drives improvement for all.

LIMITATIONS AND FURTHER RESEARCH DIRECTIONS

The selected emphasis on commonly employed cultural frameworks (i.e., Hofstede's dimensions) risk demolishing alternative or other conceptions of culture. Since the paper is a synthesis of literature rather than an empirical paper, it is unable to present new primary data or causal claims.

Empirical testing of this review's conceptual hypotheses awaits forthcoming studies. Longitudinal and mixed-method designs will need to be used to look at the temporal dynamics of change within MNCs, and comparative case studies across under-researched geographic regions to allow for geographic control. Studies that progress from national-level comparisons to examine intra-national diversity, intersectionality (i.e., ethnicity, gender), and micro-processes at the team level will yield more insights and more useful suggestions for managers.

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HUMANITAS Zarządzanie 2025 (3), s. 43-56

Original article

Data wpływu/Received: 12.06.2025
Data recenzji/Accepted: 5.08.2025/20.08.2025
Data publikacji/Published: 30.09.2025

Sources of funding for publications: CMQ Scientific Conference

DOI: 10.5604/01.3001.0055.2895

Authors' Contribution:
(A) Study Design (projekt badania)
(B) Data Collection (zbieranie danych)
(C) Statistical Analysis (analiza statystyczna)
(D) Data Interpretation (interpretacja danych)
(E) Manuscript Preparation (redagowanie opracowania)
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INTERNET FOCUS GROUPS AS A BASIS FOR BUILDING A COMMUNICATION STRATEGY TOWARDS SPORTS FANS

INTERNETOWE GRUPY TEMATYCZNE JAKO PODSTAWA BUDOWANIA STRATEGII KOMUNIKACJI WOBEC KIBICÓW SPORTOWYCH

Abstract: The aim of the article is to compare the activity of fan groups on the internet with their direct participation in sports events. The studied group consists of users of the thematic forum "Awangarda *żużlowa*". The research is innovative, as online forums have not previously been addressed in the literature as a distinct category of social media. The study attempts to answer the question: how can online thematic groups be used to increase the effectiveness of one's communication activities? The article is part of a broader research project and focuses on selected aspects of this issue.

The study included 678 respondents. The research was conducted between January and March 2025 using the CAWI method (Computer-Assisted Web Interviewing). The first stage of the research involved a quantitative analysis of the collected data. A statistical method — the chi-squared test — was applied, supplemented with V-Cramer's coefficient to analyze non-measurable variables related to interest in the sport and both direct and virtual engagement.

The research hypothesis assumes that individuals who declare a strong attachment to the discipline are more likely to participate directly in sports events, compared to users of the "Awangarda *żużlowa*" forum, whose interest in the discipline is more short-term.
The article contributes to the trend of studies focused on better understanding sports fans by sports institutions and clubs, which leads to more effective influence and marketing communication management. By identifying potential differences between stadium fans and virtual fans, communication tools can be better adapted to these newly identified groups. The research aimed to demonstrate that it is necessary to differentiate communication approaches between stadium-based and virtual fans.

Keywords: communication, sport, marketing in sport, Internet, social media

Streszczenie: Celem artykułu jest porównanie aktywności grup kibiców w sieci internetowej oraz ich bezpośredniego uczestnictwa w spotkaniach sportowych.
Grupą badaną są tu użytkownicy forum tematycznego „Awangarda żużlowa", a badania mają charakter nowatorski, ponieważ do tej pory w literaturze przedmiotu nie zajmowano się forami internetowymi jako odrębną grupą mediów społecznościowych. Są one próbą odpowiedzi na pytanie: jak można wykorzystać internetowe grupy tematyczne do zwiększenia efektywności własnych działań komunikacyjnych? Artykuł jest częścią większych badań i dotyczy części tych zagadnień.
Badaniem objęto 678 respondentów. Zakres czasowy badań objął okres od stycznia do marca 2025 roku i przeprowadzono je z wykorzystaniem metody CAWI. Pierwszy etap badań polegał na przeprowadzeniu analizy ilościowej przyjętych do badania danych. Zastosowano metodę statystyczną – test chi-kwadrat, pogłębioną o współczynnik V-Cramera dla cech niemierzalnych związanych z zainteresowaniem daną dyscypliną oraz zaangażowaniu bezpośrednim i wirtualnym.
Hipoteza badawcza zakłada, że osoby, które deklarują przywiązanie do dyscypliny, częściej uczestniczą bezpośrednio w spotkaniach sportowych w porównaniu do użytkowników forum „Awangarda żużlowa", których zainteresowanie dyscypliną jest krótsze.
Artykuł wpisuje się w trend badań dotyczący lepszego poznania kibiców sportowych przez instytucje i kluby sportowe, a przez to skuteczniejsze oddziaływanie oraz zarzadzanie komunikacją marketingową. Dzięki poznaniu ewentualnych różnic między kibicem stadionowym a wirtualnym można dostosowywać swoje narzędzia komunikacyjne do nowopoznanych grup. Badanie miało wykazać, że istnieje konieczność różnicowania podejścia komunikacyjnego do kibiców stadionowych i wirtualnych.

Słowa kluczowe: komunikacja, sport, marketing w sporcie, Internet, media społecznościowe

INTRODUCTION

Integrated marketing communication today constitutes a key element of an effective marketing strategy in today's dynamic business environment. According to Ph. Kotler and K. L. Keller, it is „a planning process designed to ensure that all brand contacts with a product, service, or organization that a customer or potential customer may have are relevant to that person and consistent over time"[1].

[1] Ph. Kotler, K.L. Keller, *Marketing*, Rebis, Poznań 2012, p. 530.

Although the term marketing communication is commonly equated with promotion, it's important to note that the two are not always synonymous. Promotion is often treated as a marketing mix tool aimed at increasing awareness of a product or company in the market, or as a marketing activity designed to influence customers by providing information, arguments, and promises that encourage the purchase of offered products[2].

In contrast, the essence of marketing communication is much broader. It can be defined as a complex set of tools that a company uses to communicate with its environment, ensuring a flow of information both from the company, through intermediaries, to consumers, and in the opposite direction — from consumers, through intermediaries, back to the company. This also includes a set of methods and procedures for acquiring information and analyzing data that are important for making marketing decisions[3].

The essence of integrated marketing communication lies in the harmonious combination of various communication tools available to the enterprise. Integrated marketing communication consists not only of traditional communication tools, but also of unconventional and nonstandard ones. These nonstandard tools include innovative and modern strategies that go beyond traditional approaches. One such tool is word-of-mouth marketing, which can be described as a set of activities aimed at generating interest in a given product among a target group through information coming from informal sources. These sources typically include family, friends, acquaintances, and other people not affiliated with the given company. In this context, (word-of-mouth) marketing serves as a tool to activate sales[4].

Word-of-mouth marketing can take many forms, especially in the age of the Internet. It concerns the way information is shared among participants of this informal communication channel. Therefore, it can be categorized into:

- gossip or word-of-mouth,
- virtual communities,
- appointing brand ambassadors,
- viral marketing[5].

Influencer marketing is the most significant new approach to marketing in the past decade for professionals at the forefront of purchasing decisions. Brown and Hayes define an influencer as "a third party who significantly shapes the customer's purchasing decision but may not be responsible for it."[6].

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[2] A. Rudzewicz, J. Michalak, P. Merło, *Narzędzia promocji w komunikacji marketingowej*, Instytut Badań gospodarczych, Olsztyn 2021, p. 7-8.

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[4] D. Balter, J. Butman, *Poczta pantoflowa. Sztuka marketingu szeptanego*, ONE PRESS 2007, p. 51.

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An influencer is a person who holds significant sway over their audience on social media platforms. Thanks to their reach and credibility, influencers are able to shape the opinions and purchasing decisions of their followers. They usually specialize in specific fields such as fashion, beauty, travel, fitness, or lifestyle, and share their experiences, opinions, and product/service recommendations with their audience.

With changing media consumption habits — especially among younger generations — platforms like Instagram and TikTok have become key marketing channels[7].

It is worth noting that companies are increasingly using both traditional and innovative tools within their marketing communication efforts to adapt to evolving market and technological conditions, as well as to meet the expectations and needs of customers.

According to G. Hajduk, properly designed and effective marketing communication should ensure that every form of contact with customers and other target groups is tailored to the specific recipient, understandable, and consistent in terms of the message conveyed. The author describes IMC as "a strategic business process aimed at planning, developing, implementing, and evaluating a coordinated, measurable, and persuasive brand communication program with consumers, potential clients, and other internal and external target audiences"[8].

In summary, the study of marketing communication focuses mainly on three key aspects:

- Managing integrated marketing communication of the organization (brand), including planning, implementation, and control,
- The process of integrated marketing communication, which is a sequence of carefully planned and coherent activities aimed at effectively delivering a message and maintaining relationships with the company's (brand's) audiences,
- Tools of integrated marketing communication, used in carefully selected communication channels with the environment, which include both official and informal forms of communication[9].

According to M. Jachimowski, what influences integrated marketing communication are primarily transformations in the field of marketing and the evolution of communication practices. The way people and organizations communicate with each other has changed and has a significant impact on how companies operate and the relationships they maintain with their environment.

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[7] M. Haenlei, E. Anadol, T. Farnsworth, H. Hugo, J. Hunichen, D. Welte „ *Navigating the New Era of Influencer Marketing: How to be Successful on Instagram, TikTok, & Co.*", The Regents of the University of California 2020, p. 5-6.

[8] G. Hajduk, *Poziomy, płaszczyzny i rodzaje komunikacji marketingowej*, „Zeszyty Naukowe Uniwersytetu Ekonomicznego w Poznaniu" 2010, p. 20-29.

[9] M. Pluta-Olearnik, *Zintegrowana komunikacja marketingowa – koncepcje, praktyka, nowe wyzwania*, Uniwersytet Ekonomiczny we Wrocławiu, Instytut Marketingu 2018, p. 127.

The fundamental goal of a company is to communicate with various stakeholder groups in a consistent, transparent manner that leverages the effect of synergy, so that the organization can build beneficial relationships with its environment in both the short and long term. The idea of unity is the foundation of integration and requires all marketing communication tools to convey unambiguous messages. On the other hand, the interactive dimension is based on the need for continuous, two-way dialogue between the organization and its various stakeholders — not just customers[10].

In conclusion, integrated marketing communication (IMC) is essential in modern business, as changes in marketing and communication practices have a significant impact on how companies operate and relate to their environment. The previously independent communication channels are starting to limit business development opportunities. As a result, it is necessary to combine internal and external communication.

It is also important to keep in mind the principles that regulate integrated communication. According to P. Imiołek, the 4C formula is one of the most important. It allows for the analysis of a campaign and evaluation of planned activities, as well as assessing whether the communication strategy implemented by the company has a chance of achieving its goals[11].

Effective information delivery and maintaining competitiveness in today's world are only possible within these social networks. These changes are especially crucial for companies seeking new ways to communicate with customers. Social trends shape the attitudes and behaviors of market participants and influence their expectations regarding marketing messages. Therefore, social media plays a vital role in shaping communication strategies and is an essential component of effective customer communication[12].

Social media includes blogs, internet forums, consumer review sites, social networking services (such as Twitter, Blogger, LinkedIn, and Facebook), and Wikipedia[13].

In the age of the Internet, word-of-mouth marketing conducted via online forums has gained particular importance — these are spaces where users exchange opinions, reviews, and experiences related to products and services.

Discussion forums, as a form of online community, are considered one of the most authentic sources of recommendations, as users perceive them as less com-

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[10] S. Jarosławska-Sobór, M. Dulewski, *Wykorzystanie zintegrowanej komunikacji marketingowej we wprowadzaniu na rynek nowej marki. Case study eko patrolu Głównego Instytutu Górnictwa*, Główny Instytut Górnictwa, Katowice 2018, p. 61-62.

[11] P. Imiołek, *Sześć kroków do zintegrowanej komunikacji marketingowej przynoszącej efekty*, 26.07.2017, https://www.infona.pl/resource/bwmeta1.element.desklight-d4f82e86-0c43-4ac3-85ef-93719a50e55a.

[12] A. Rogala, *Wyzwania zintegrowanej komunikacji marketingowej w dobie społeczeństwa informacyjnego*, *Marketing i Rynek*, Numer 11, Warszawa 2014, p. 58-59.

[13] E. Arrigo, *Social media marketing in luxury brands*, "Management Research Review" 2018, 41, p. 657–679. doi: 10.1108/MRR-04-2017-0134.

mercial than traditional advertising[14]. This is why marketers increasingly initiate covert or veiled brand promotion activities there, often involving so-called opinion leaders or specially hired individuals posing as ordinary users[15]. A research shows that positive opinions on internet forums can significantly influence purchasing decisions, especially for products with a high degree of risk or complexity[16].

User awareness is also growing regarding the possibility of manipulation, which encourages brands to be more transparent and take an ethical approach to word-of-mouth marketing[17].

In the context of communication strategies, word-of-mouth marketing on forums can be an effective tool for building brand trust and loyalty — provided it is carried out authentically and based on genuine user experiences[18].

METHODS

The primary research was conducted in the form of interviews using the CAWI method (Computer-Assisted Web Interviewing), involving 678 respondents who identified themselves as users of the thematic forum "Awangarda *żużlowa*". After the research material was collected, it was analyzed both qualitatively and quantitatively. The chi-square test was also used to demonstrate the relationship between direct involvement in speedway sports and virtual engagement on the analyzed website.

The data was subjected to statistical processing to examine the independence between the length of interest in speedway and both direct attendance at speedway events and virtual engagement on the "Awangarda *żużlowa*" forum. The chi-square test was applied here. This test examines whether data sets are independent of each other. In this case, the research hypothesis assumed that engagement on the online forum results from direct participation in a sporting event. Consequently, this leads to the necessity of treating fans as entities closely tied to the sports spectacle and their physical presence at speedway stadiums.

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[18] M. Trusov, R.E. Bucklin, K. Pauwels, *Effects of word-of-mouth versus traditional marketing: Findings from an internet social networking site*, "Journal of Marketing" 2009, 73(5), p. 90–102, https://doi.org/10.1509/jmkg.73.5.90; K. Jamil, L. Dunnan, L.R.F. Gul, M.U. Shehzad, S.H.M. Gillani, F.H. Awan, *Role of Social Media Marketing Activities in Influencing Customer Intentions: A Perspective of a New Emerging Era*, "Frontiers in Psychology" 2022, 12, 808525, https://doi.org/10.3389/fpsyg.2021.808525.

The results presented in this article are part of a broader study. The survey questionnaire included several important questions that served as an introduction to this paper.

The majority of respondents in the study are speedway fans who have been interested in the sport for over 10 years. Only about 5% of respondents are new fans. This structure reflects the nature of the sport and the relatively small number of cities where speedway operates. This is important because it shows that speedway is a generational sport, with enthusiasm passed down from one generation to the next. However, this generational interest does not always translate into direct attendance at sporting events.

In the calculations concerning the relationship between the longevity of interest in speedway and direct attendance at matches, data from the base table — containing empirical (observed) data — was used.

Table 1. Correlations between the length of interest in speedway racing and in-person participation in sporting events
Tabela 1. Korelacje między długością zainteresowania wyścigami żużlowymi a osobistym uczestnictwem w wydarzeniach sportowych

	Over 10 years	7–10 years	4–7 years	2–4 years	Under 2 years	Total
Very often	192	46	41	28	10	317
Often	80	24	14	10	4	132
Sometimes	54	14	16	10	8	106
Rarely	39	7	4	5	5	60
Very rarely	30	4	9	3	1	47
I do not attend	6	2	4	4	4	20
Total	401	97	88	60	32	678

Source: Own based on research.

$$n'_{ij} = \frac{n_{i.} * n_{.j}}{\sum_{i,j=1}^{n} n_{ij}}$$

where:

$n_{i.}$ - row marginal total

$n_{.j}$ - column marginal total

$\sum n_{ij}$ - total number of observations

Table 2. Theoretical values of correlations between the length of interest in speedway racing and in-person participation in sporting events
Tabela 2. Teoretyczne wartości korelacji między zainteresowaniem wyścigami żużlowymi a osobistym uczestnictwem w wydarzeniach sportowych

	Over 10 years	7–10 years	4–7 years	2–4 years	Under 2 years
Very often	187,5	45,4	41,1	28,1	15,0
Often	78,1	18,9	17,1	11,7	6,2
Sometimes	60,3	14,6	13,2	9,0	4,8
Rarely	35,5	8,6	7,8	5,3	2,8
Very rarely	27,8	6,7	6,1	4,2	2,2
I do not attend	11,8	2,9	2,6	1,8	0,9

Source: own based on research.

After determining theoretical values for each cell, the chi-square statistic was calculated using formula (2):

$$\chi 2 = \sum_{i=1}^{k}\sum_{j=1}^{s}\frac{(n_{ij} - n'_{ij})^2}{n'_{ij}} \quad (2)$$

where:

- n_{ij} – observed frequency empiryczne (obserwowane) wartości komórki ij
- n'_{ij} – expected (theoretical) frequency teoretyczne wartości komórki ij

The calculated chi-square value was 32.69. This was compared to the critical value from the chi-square distribution table for (k−1)(s−1)=(6−1)(5−1)=20(k-1)(s-1) = (6-1)(5-1) = 20(k−1)(s−1)=(6−1)(5−1)=20 degrees of freedom at a significance level of 0.05. The critical value is 31.410.

Since the empirical chi-square value slightly exceeds the theoretical value, we reject the null hypothesis of independence with 95% confidence. However, at the 99% confidence level (critical value = 39.997), the result does not exceed the threshold, suggesting that the relationship is not significant at that stricter level.

To further interpret the results, V-Cramer's coefficient was calculated using formula (3):

$$V = \sqrt{\frac{\chi 2}{n(m-1)}}$$

where: V - V-Cramer's coefficient

- $\chi 2$ - chi-square statistic n - total number of observations m - the smaller of the number of rows or columns

Substituting the values gives a V-Cramer's coefficient of 0.1, indicating a very weak relationship. This suggests that the length of interest in speedway does not significantly influence actual attendance at speedway events. Respondents express interest but do not necessarily attend matches in person.

This raises the question: what is the relationship between the same respondents' interest in the sport and their engagement online through a thematic forum?

To address this, the same method (chi-square and V-Cramer's coefficient) was applied to data in Table 3.

Table 3. Correlations between the length of interest in speedway racing and using platform "Awangarda żużlowa"
Tabela 3. Korelacje między długością zainteresowania wyścigami żużlowymi a korzystaniem z platformy „Awangarda żużlowa"

	Over 10 years	7–10 years	4–7 years	2–4 years	Under 2 years	Total
Daily	230	58	61	32	17	398
Several times/ week	153	33	21	25	8	240
A few days/ month	23	6	5	2	4	40
Total	406	97	87	59	29	678

Source: own based on research.

Table 4. Theoretical values of correlations between the length of interest in speedway racing and using platform "Awangarda żużlowa"
Tabela 4. Teoretyczne wartości korelacji między zainteresowaniem wyścigami żużlowymi a korzystaniem z platformy „Awangarda żużlowa"

	Over 10 years	7–10 years	4–7 years	2–4 years	Under 2 years
Daily	238.3	56.9	51.1	34.6	17.0
Several times/week	143.7	34.3	30.8	20.9	10.3
A few days/ month	24.0	5.7	5.1	3.5	1.7

Source: own based on research.

The empirical chi-square value in this case is 11.27, which is lower than the critical value of 15.507 for 8 degrees of freedom at the 0.05 significance level. Therefore, the null hypothesis of independence cannot be rejected. This implies that being a user of the "Awangarda żużlowa" forum is only weakly related to the duration of interest in speedway racing.

V-Cramer coefficient for this dataset is 0.22, which indicates a weak relationship between variables. Thus, forum users include both long-time speedway fans and individuals who may not attend live matches.

These findings reveal that modern sports audiences may substitute direct event attendance with mediated forms of engagement, such as online platforms or television. This shift has marketing implications that must be taken into account by sports club marketing departments. Among these are the growing importance of online presence and active participation in forming digital communities around sports and clubs.

DISCUSSION

The research shows that fans who declared a long-term interest in the sport can belong both to the group attending live events and to online fans, as there are no significant differences between these groups.

Sport is an emotional field, with fans as its main participants. In all sports disciplines, more and more fans choose to be active on online forums instead of regularly attending matches at stadiums.

This results from several factors. First, online discussions allow for real-time commentary, exchange of opinions, and access to unofficial information, which creates a sense of greater engagement and community. Second, the costs associated with attending matches – tickets, transportation, time – are rising, which encourages some fans to stay at home. Forums offer an alternative that is convenient, free, and accessible from anywhere. Unfortunately, this phenomenon may affect stadium attendance and the atmosphere at matches, which are an integral part of sports.

Considering speedway, marketing departments of speedway clubs should treat the growing activity of fans on thematic forums not as a threat but as an opportunity to build stronger bonds with fans and increase their engagement. This can be achieved through specific actions, such as:

1. Active presence on forums and social media

It is assumed that clubs should be present where their fans are. It is valuable for official representatives, for example communication specialists, to actively participate in discussions, answer questions, and clear doubts. This makes the club appear open to dialogue.

2. Integration of online and offline experiences.

Campaigns can be created to encourage forum users to attend matches, e.g., by offering discounts, special ticket packages, or meetings with players for the most active members of online communities.

3. Using forums for opinion research

Forums are an excellent source of information on fan moods. Marketers can analyze posts to better understand fans' needs and expectations—and based on that, adjust ticket offers, merchandise, or promotional messages.

4. Creating official interaction channels

Clubs can create their own moderated platforms or discussion groups that serve as places for exchanging opinions and sources of reliable information. This way, fans become more attached to the club's official channels.

5. Building the unique atmosphere of live matches

It is important to emphasize what cannot be experienced online: emotions in the stands, the smell of exhaust, the roar of engines, and the community with other fans. Well-planned video campaigns and storytelling can remind fans that attending the stadium is more than just watching a match.

Clubs should not fight the trend of moving fandom online but use it as a tool for deeper fan engagement and effectively attracting them back to the stadiums.

SUMMARY

The aim of the article is to compare the activity of fan groups in the online network with their direct participation in sports events. This goal was achieved through a study involving 678 users of the thematic forum "Awangarda żużlowa" on the Meta portal, although the article's scope covers only part of the investigated issues, and its length did not allow for a broader treatment. The study aimed to determine the attitude of the contemporary fan toward the phenomenon of fandom and interest in the sports discipline, and this goal was achieved. The research hypothesis assumed that people who declare attachment to the discipline participate more directly in sports events compared to users of the "Awangarda żużlowa" forum whose interest in the discipline is shorter.

The first study concerned people declaring direct participation in sports competitions and the influence of the duration of their interest in the discipline on this. The chi-square statistic determining this influence is slightly higher than the theoretical statistic, which means the hypothesis of independence should be rejected, but its effect calculated by the V-Cramer coefficient is 0.1, indicating a very weak dependence between variables. Based on the collected information, the influence of long-term interest in the discipline on forum use was calculated. The empirical chi-square statistic in this case is lower than the theoretical statistic, which means there are no grounds to reject the hypothesis of independence. The V-Cramer's coefficient in this case is 0.22, indicating a weak relationship between variables.

The main hypothesis of this article assumes that people who declare long-term attachment to the discipline participate more directly in sports events compared to users of the "Awangarda żużlowa" forum whose interest is shorter. The study and detailed hypotheses do not confirm this main hypothesis. The influence of the duration of interest in the discipline in both groups is weak.

However, the lack of significant differences does not mean they should be treated the same in terms of communication. The club should be aware that there are two groups of fans differing in their approach to direct consumption of the sports product, and the Internet is an increasingly strong competitor to direct participation in sports events. The problem requires further, more in-depth research that will enable more effective communication with fans in the future.

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HUMANITAS Zarządzanie 2025 (3), s. 57-69

Review Article

Received: 20.05.2025
Accepted: 16.06.2025/22.06.2025
Published: 30.09.2025

Sources of funding for publications: *Humanitas University in Sosnowiec*

DOI: 10.5604/01.3001.0055.2896

Authors' Contribution:
- (A) Study Design (projekt badania)
- (B) Data Collection (zbieranie danych)
- (C) Statistical Analysis (analiza statystyczna)
- (D) Data Interpretation (interpretacja danych)
- (E) Manuscript Preparation (redagowanie opracowania)
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CHALLENGES OF HUMAN RESOURCE MANAGEMENT IN THE POLISH HEALTHCARE SECTOR: PROFESSIONAL BURNOUT AND GENERATIONAL CHANGE AS KEY DRIVERS OF ORGANISATIONAL TRANSFORMATION

WYZWANIA ZARZĄDZANIA KADRAMI W SEKTORZE OCHRONY ZDROWIA W POLSCE: WYPALENIE ZAWODOWE I ZMIANA POKOLENIOWA JAKO KLUCZOWE CZYNNIKI TRANSFORMACJI ORGANIZACYJNEJ

Abstract: The contemporary health care sector in Poland is facing increasing personnel challenges resulting from two overlapping phenomena - deepening professional burnout among medical staff and generational change, manifested by the entry of representatives of generation Z and soon also of generation alpha into the labour market. The article analyses the impact of these processes on the style and effectiveness of management in health care units, with particular emphasis on non-public health care institutions. Based on a literature review, empirical data and available industry reports, it presents the main indications of an impending management crisis, which identifies risks resulting from the mismatch between management methods and the expectations of younger generations, and proposes courses of action to counteract the effects of burnout and improve staff retention. Particular attention was given to the role of transformational leadership and leaders' emotional intelligence in creating an organisational culture conducive to employee engagement and well-being.

Keywords: professional burnout, multigenerational teams, management, health care, medicine

Streszczenie: Współczesny sektor ochrony zdrowia w Polsce stoi przed rosnącymi wyzwaniami kadrowymi wynikającymi z dwóch nakładających się zjawisk – pogłębiającego się wypalenia zawodowego wśród personelu medycznego oraz zmiany pokoleniowej, przejawiającej się wejściem na rynek pracy przedstawicieli pokolenia Z, a już wkrótce także pokolenia alfa. Artykuł analizuje wpływ tych procesów na styl i skuteczność zarządzania w jednostkach ochrony zdrowia, ze szczególnym uwzględnieniem niepublicznych zakładów opieki zdrowotnej. W oparciu o przegląd literatury, dane empiryczne oraz dostępne raporty branżowe przedstawiono główne przesłanki mogące wskazywać na zbliżający się kryzys zarządczy, w którym zidentyfikowano ryzyka wynikające z niedostosowania metod zarządzania do oczekiwań młodszych pokoleń, a także zaproponowano kierunki działań mające na celu przeciwdziałanie skutkom wypalenia oraz poprawę retencji kadr. Szczególną uwagę poświęcono roli przywództwa transformacyjnego i inteligencji emocjonalnej liderów w tworzeniu kultury organizacyjnej sprzyjającej zaangażowaniu i dobrostanowi pracowników.

Słowa kluczowe: wypalenie zawodowe, zespoły wielopokoleniowe, zarządzanie, ochrona zdrowia, medycyna

INTRODUCTION

There are currently 4 generations of workers in the labour market, who differ significantly not only in the way they do their jobs but above all in the way they build interpersonal relationships, commitment. The health sector is undergoing dynamic changes in the way it employs staff, which require a new look at human resource management. The generational change we are currently facing is between Baby Boomers born between 1946 and 1964, who make up % according to the report, and Generation Z, who make up % of the workforce. A change in the way human resources are managed is becoming necessary in the context of combating burnout and the ongoing shift in the employment of medical staff, especially in administrative divisions. This trend is of considerable importance in a situation in which it is necessary to combine a new style of management taking into account the employment preferences of generation Z with the simultaneous construction of a long-term employment structure, intergenerational expectations while ensuring the highest standard of health service provision. The contemporary labour market increasingly shows the clash of values, attitudes and expectations of the BB generation, for whom work is not only a means of acquiring financial resources but also constitutes an element of identity showing a strong sense of duty in the workplace, loyalty to the organisation as opposed to the Gen Z generation, which has completely different expectations on the labour market deviating from many years of work in one organisation, Gen Z willingly accepts project challenges, expects quick feedback, as well as clear paths for promotion and competence development. The aim of this article is to analyse the key issues of human resource management in health care with a particular focus on intergenerational team management and the effects of job burnout.

CHARACTERISTICS OF THE INTERGENERATIONAL HEALTH CARE SECTOR IN POLAND

For many years, the Polish health care system has been struggling with a constant shortage of staff both in the segment of specialists-doctors, nurses and management administration divisions. The constantly increasing workload and ageing workforce results in excessive staff turnover, which often affects the organisation's management process.

The lack of comprehensive management strategies leads to an overloaded workforce and consequently to an increase in job burnout. In times of a staffing crisis in health care, retaining experienced employees and attracting and keeping younger ones requires an approach that is individualised, flexible and aware of generational differences[1]. Only such a strategy offers the chance to build teams that are not only effective, but also resistant to burnout and motivated for long-term development[2].

An additional factor that significantly uncovered management problems in the healthcare sector was the Covid-19[3] pandemic revealing organisational weaknesses in the functioning of healthcare entities while forcing a change in the approach to organisational management. The consequences of this situation are not only high staff turnover which destabilises the organisational structures of hospitals, but also significant work overload, especially among experienced professionals who often have mentoring and management roles while participating in the day-to-day delivery of services. In many cases, this situation has also necessitated a redefinition of management roles, the implementation of technological solutions and, above all, a change in management, which cannot be based on rigid rules because younger generations require an immediate readiness for change together with the development of the capacity to build organisational resilience and adapt to new conditions.

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JOB BURNOUT AS A MANAGEMENT CHALLENGE IN MULTIGENERATIONAL TEAMS

Professional burnout is particularly acute in medical environments and manifests itself in reduced commitment, emotional exhaustion and depersonalisation, while at the same time reducing attention to work effectiveness. Health care workers are a professional group that is particularly vulnerable to the consequences of poorly organised management in medical institutions[4]. There are still many units that do not have clear operating rules that are tailored to their actual nature and needs. This results in medical staff often struggling with excessive workloads. These problems are not limited to administrative procedures – they also include a lack of tools to effectively manage the team, professional risks or adequate communication within the organisation. From a management point of view, mismatched organisational structures lead to chaos in the distribution of responsibilities, a lack of clarity about responsibilities and a lack of a comprehensive approach to counteracting professional burnout. When there is a lack of a well-thought-out strategy for managing people and their potential, employees quickly start to feel constantly overloaded, morale declines and turnover within the team increases[5].

For this reason, it is very important to implement management solutions that are tailored to the individual organisation and team – ones that take into account not only formal responsibilities, but also the real psychological and physical needs of the employees. Only then can we speak of a working environment that is conducive to both the effective delivery of healthcare services and the sustained wellbeing of employees. In the context of considering work in multigenerational teams, particular attention should be paid to differences in values, communication styles and approaches to work by different generations. In Poland, there is a lack of research undertaking a broader analysis of multigenerational team working in the medical sector. Particular attention should be paid to the fact that only nurses as a professional group undertake pro-education activities in the prevention of burnout while trying to use this knowledge to create healthy management structures. The lack of such analyses among doctors and staff in health care administrative divisions indicates that the management of such a team is a significant organisational problem. Each generation ‑ Baby boomers born between 1946 and 1964, generation X born between 1965 and 1980, generation Y born between 1981 and 1996 and generation Z between 1997 and 2012 – brings different needs, motivations and perceptions of hierarchy and interaction to the team.

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Particular attention should be paid to the fact that an important predictor of burnout is excessive professional demands accompanied by a lack of support from colleagues[6].

Effective leadership of such a team requires a high degree of openness, adaptability and a careful approach to communication and organisational issues. It is particularly important to create an atmosphere of mutual respect and understanding between employees and to develop interpersonal competences in managers. Managers of multigenerational teams should be able to combine different perspectives and experiences in order to foster dialogue and the exchange of knowledge between generations.

MANAGING GENERATIONAL DIVERSITY AS A STRATEGY

In practice, generational diversity is becoming a management strategy, the sub-principle of which is to consciously exploit the differences and unique values that people from different generations bring. Creating a management strategy based on diversity therefore becomes a huge opportunity to build a sustainable intergenerational environment, flexible in its level of integration with enormous creative potential. It is therefore worth noting the analysis of the unique generational characteristics of medical environments.

Baby Boomers (1946-1964) in health care

Baby boomers in health care are the most experienced individuals, members of the team – doctors, nurses, diagnosticians and administrative staff. In managing this group, the most critical element is the functional inclusion of mentoring, these individuals have strong ties to the workplace – sometimes their employment with the unit exceeds the 20-year level. This is a group committed to creating a space for knowledge sharing mainly through participation in scientific conferences and workshops. They value loyalty to the institution and are the group most strongly associated with the healthcare ethos.

Generation X (1965-1980) in medical institutions

Generation X in medical institutions is most often the management division and executives – these include chiefs, coordinators and clinic managers. The characteristic of this generation is above all the pragmatism that defines the level of management. Generation X is the link between the Baby Boomers and the employees who will soon be retiring. In managing them, it makes sense to focus on trust, decision-making capacity and flexible forms of cooperation. Generation X can play a key role in team integration because it understands the needs of both age groups.

[6] M. Walkiewicz, K. Sowińska, M. Tartas, *Burnout in medical profession – a literature review*, „Przegląd Lekarski" 2014, 71(5):263-269.

Millenials (1981-1996) in medical institutions

For this group, it is important to implement a management model based on regular feedback and to provide development opportunities – e.g. through courses, training or participation in innovative projects. This generation is most likely to take on specialist positions, become project leaders and take on the challenges of conducting clinical research. For this group, it is important to provide development opportunities – e.g. through courses, training and international conferences.

Generation Z (1997-2012) in medicine

They are characterised by a relaxed approach to technology, a need for speed and flexibility. Their strength is the ease of adaptation to new IT systems, telemedicine or e-documentation. It is this generation that provides the basis for building modern management strategies for employees that incorporate the use of technology. In healthcare institutions, age diversity management can therefore not be an accident – it should be a strategic element of organisational culture. It is worth emphasising the fact that generational diversity should be a strategic element of organisational building. A personalised approach and the implementation of tools that bring generations together, such as mentoring, development programmes and platforms for the exchange of experiences, are basic principles for the correct building of a team management strategy. A new perspective on this may be a strategy based on building a foundation from experience, research-based knowledge and broad-based innovation. The role of managers is to bring out these strengths and create an environment in which generational differences do not divide, but foster cooperation and development of the entire team. Research in other market segments, such as industry and education, has shown that generational differences do not divide, but foster cooperation and development of the whole team. The implementation of such solutions in medical institutions appears to be difficult, requiring an individual analysis of each management area.

Generational change in health care and its significance for management

Generational change in health care affects not only doctors but also nurses, and administrative staff, who together form the foundation for the functioning of the entire system. Each of these groups brings different experiences, values and expectations, which requires managers to skilfully combine different perspectives and adapt their management style to the diverse team. Working in cross-generational teams presents both opportunities for growth and some difficulties, and managers face challenges in transferring roles and competencies between generations. It is worth noting that a significant proportion of doctors are representatives of the Baby Boomers and Generation X who will be retiring over the coming years. This change raises the risk of a generation gap, which cannot be bridged quickly without strategic action in the area of management and building long-term strategies[7]. From the data provided by the Central Register of Doctors, we see that nearly 56,000 thousand are doctors over the age of 61. The relatively small number of doctors from generations Y and Z shows that there is a high demand for:

– creating attractive working and development conditions,
– supporting intergenerational mentoring (where experienced doctors can pass on knowledge to younger ones),
– exploiting the preferences of the younger generations, e.g. flexible working, digitisation, teamwork, telemedicine and online platforms.

According to the Central Register of Doctors (CRL), the age distribution of doctors in 2017 was as follows[8]:

– doctors under 30 years of age – 22,984 persons (including 15,026 women);
– doctors aged 31-40 years – 32,109 persons (including 20,945 women);
– doctors aged 41-50 – 36,531 persons (including 21,765 women);
– doctors aged 51-60 – 40,089 (including 23,582 women);
– doctors aged 61-70 – 29,976 (including 18,725 women);
– doctors aged over 70 – 27 770 (including 18,394 women).

The health care sector is currently undergoing a generational transition, which is particularly evident in the medical profession. CSO data shows that a significant proportion of rofessionally active doctors in Poland are over 50 years of age. It is important to consider what this means for patients and the medical system, which currently relies heavily on the experience and knowledge of older generations. At the same time, it is clear that the younger generations, i.e. Y and those slowly entering the Z market, are still a clear minority in this professional group. This raises serious questions about the future of the system:

– who will take over the competences of older doctors,
– how to build a strategic management reform,
– how to ensure knowledge transfer,
– how to motivate young people to stay in the profession?

It should also be borne in mind that for several years there has been a trend towards working in both job crafting and hybrid formats, which unfortunately cannot be applied in most medical specialties in this segment. The increasing feminisation of the profession is also becoming a challenge. It should be noted that among the youngest doctors, women are already in the vast majority, which in the long term necessitates adapting working and organisational conditions to their needs – e.g. greater flexibility, work-life balance, professional development. From a management point of view, generational change requires the construction of a new approach. It is necessary to have in mind a management model in

[7] Ibidem.
[8] Centralny Rejestr Lekarzy prowadzony przez Naczelną Izbę Lekarską, http:// www.nil.org.pl/rejestry/centralny-rejestr-lekarzy/informacje-statystyczne (1.11.2017).

which different values, working styles and expectations of the profession are reconciled. Older doctors are used to working in a full-time mode, thus valuing traditional forms of organisation. Generations Y and Z – and especially generation Z – are looking for flexibility, development, meaning and technology while trying to avoid all forms of contractual work giving a long-term employment status so much desired by generations BB and X. On the basis of the problem analyses carried out in-depth with community interviews, one should aim for a model in which it becomes crucial to manage medical teams in such a way that they are not only efficient but also open to diversity - both in age and mentality. If not addressed, the generation gap in the medical profession could seriously jeopardise the continuity and quality of healthcare[9].

Medical teams currently coexist with doctors from four generations (BB, X, Y, Z), and this means different approaches to work, communication, authority or technology. Managing these teams requires:

– matching the leadership style to the different expectations - skilfully managing conflict and differences in expectations,

– building multi-generational project teams and joint decision-making - improving time management skills

– implementing individual mentoring programmes, which are very successful in the US, documenting practice and teaching in the workplace – is becoming crucial for the continuity of quality healthcare.

Data depicting the age structure of nurses and midwives included in the report of the Supreme Chamber of Nurses and Midwives, CRPiP (as of 30.04.2022) clearly indicate that the current dominant group in these professions is made up of people from the oldest years, mainly representing the Baby Boomers and Generation X[10]. This situation has a direct impact on the sustainability of staff resources, the level of medical services provided and forces the adaptation of staff management methods to the changing demographic realities[11]. People under 30 years of age represent only about 10-15% among nurses and midwives, indicating a low level of interest in these professions among the younger generations or difficulties in retaining them in the health care system in the long term. It therefore becomes necessary to intensify activities in the area of: - the popularisation of the profession through information campaigns, financial support (e.g. scholarships) and simplification of educational pathways – the provision of working conditions

[9] K. Mitura, S. Kozieł, K. Komor, *Can a surgeon live his whole life? – analysis of the risk of death related to pursuing the profession*, „Polski Przegląd Chirurgiczny" 2018: 90 (1): 18–24; *Zdrowie i ochrona zdrowia w 2022 r. GUS*, Główny Urząd Statystyczny Urząd Statystyczny w Krakowie Statistical Office in Kraków, Warszawa – Kraków 2023.

[10] A. Kotarba, E. Borowiak, *Stress coping styles and occupational burnout syndrome of nurses employed in intensive care units*, „Pielęgniarstwo XXI wieku" 2018, Vol. 17, No. 4(65).

[11] E. Kupcewicz, W. Szczypiński, *Wpływ wybranych zmiennych społeczno-demograficznych i związanych ze środowiskiem pracy na poziom wypalenia zawodowego pielęgniarek*, „Pielęgniarstwo Polskie" 2018, 2(68), 165–172.

that meet the expectations of young people, who place great emphasis on flexibility, professional development, the use of modern technologies and a sense of meaning in their duties. Today's professional teams may include employees aged 25 as well as 70, which poses considerable challenges for managers. This requires, among other things: - adapting communication style and work organisation to different age needs and expectations, - creating conditions conducive to intergenerational cooperation, with younger people sharing their knowledge of new technologies and older people passing on their professional experience, - developing managerial skills related to the effective management of a team composed of representatives of different generations.

Age structure of nurses (number of people)[12]:

– 21-30 years old: 13 020,
– 31-40 years old: 18 988,
– 41-50 years: 49 308,
– 51-60 years old: 84 ,444,
– 61-70 years: 57 037
– over 70 years: 11 868.

Age structure of midwives (number of people):

– 21-30 years: 3 123,
– 31-40 years: 3 343,
– 41-50 years: 4 928,
– 51-60 years: 10 118,
– 61-70 years: 6 077,
– over 70 years: 1 406.

The data collected from 2021-2022 clearly shows that the ageing health care workforce is a growing problem that may soon lead to staff destabilisation in health care institutions. In many voivodeships, such as Lower Silesia, Łódź and Lubuskie, the average age of nurses has already exceeded the 55-year mark. Among midwives, the situation is very similar – especially in the north-eastern part of Poland, where the highest averages are also recorded. This is a clear sign that a large proportion of those currently active will soon reach retirement age. It is becoming necessary to adapt management strategies to the demographic challenge. The fact is that people who are just starting out in healthcare do not always stay for long. Failure to respond to these changes can lead to serious problems in ensuring continuity of patient care. This is why it becomes so important to manage teams thoughtfully, taking into account the age of the workforce. In practice, this means not only keeping experienced employees in the system for as long as possible, e.g. through flexible rosters or reduced working hours, but above all creating such employment opportunities for the

[12] Naczelna Izba Pielęgniarek i Położnych, CRPiP, stan na 30.04.2022 r., https://www.gov.pl/web/zdrowie/polityka-wieloletnia-panstwa-na-rzecz-pielegniarstwa-i-poloznictwa-w-polsce

younger generations – people focused on development, modernity and work-life balance. At this point, it is also worth noting that the leading trend on the labour market today is for young doctors to choose medical specialisations that will enable them to run private medical practices, e.g. aesthetic medicine, dentistry, telemedicine, which will result in the shortage of specialisations offering employment in state facilities. This trend, however, directly translates into increasing staff shortages in specialisations that are key to the operation of state-owned facilities, such as internal medicine, paediatrics, geriatrics, pulmonology and anaesthesiology. This is already evident in the difficulty of staffing on-call duties, the lack of doctors in smaller centres and the insufficient number of specialists willing to work in public hospitals. It is also worth noting that people of very different ages, approaches to responsibilities and communication styles are increasingly coming together in the same team. Such a mix can work to the advantage of the organisation, as long as there is mutual respect and space to exchange knowledge otherwise there will be crises in the management and conduct of communication in collaboration with facilitators.

Table 1. The average age of nurses and midwives[13]
Tabela 1. Średni wiek pielęgniarek i położnych

	Average age of nurses (2021)	Average age of midwives (2021)	Average age of nurses (2022)	Average age of midwives (2022)	Change (nurses midwives)
dolnośląskie (Lower Silesia)	55.2	53.7	55.9	54.1	0.7 / 0.4
kujawsko-pomorskie (Kuyavia-Pomerania)	52.3	51.5	52.7	51.5	0.4 / 0.0
lubelskie (Lublin)	52.2	49.8	52.6	50.2	0.4 / 0.4
lubuskie (Lubusz)	54.5	55.1	55.2	55.7	0.7 / 0.7
łódzkie (Lodzkie)	55.6	51.6	56.4	52.3	0.8 / 0.7
małopolskie (Lesser Poland)	52.2	51.7	52.5	52.0	0.3 / 0.3
mazowieckie (Masovia)	53.7	50.9	54.3	51.4	0.6 / 0.5
opolskie (Opole)	49.6	44.6	49.8	44.1	0.2 / -0.5
podkarpackie (Subcarpathia)	48.9	48.5	49.3	48.9	0.4 / 0.4
podlaskie (Podlaskie)	53.0	53.1	52.4	52.5	-0.6 / -0.6
pomorskie (Pomerania)	52.6	51.5	53.4	52.3	0.8 / 0.8

13 *Raport Naczelnej rady pielęgniarek i położnych. Pielęgniarka, położna – zawody deficytowe w polskim systemie ochrony zdrowia*, Warszawa, kwiecień 2022, p. 4.

	Average age of nurses (2021)	Average age of midwives (2021)	Average age of nurses (2022)	Average age of midwives (2022)	Change (nurses midwives)
śląskie (Silesia)	53.6	51.8	54.3	52.1	0.7 / 0.3
świętokrzyskie (Holy Cross)	50.7	47.7	51.0	47.5	0.3 / -0.2
warmińsko-mazurskie (Warmia-Masuria)	54.3	56.3	54.8	56.7	0.5 / 0.4
wielkopolskie (Greater Poland)	52.8	48.7	53.2	49.0	0.4 / 0.2
zachodniopomorskie (West Pomerania)	53.8	51.9	54.4	52.0	0.6 / 0.1
Poland	53.2	51.0	53.7	51.3	0.5 / 0.3

Source: own study.

The data presented clearly illustrate the growing threat resulting from the ageing of medical staff in Poland. In particular, it is alarming that in several voivodeships the average age of nurses has already exceeded 55 years, indicating that a significant proportion of personnel will soon retire or reduce their professional activity. The situation among midwives is equally serious, especially in the north-eastern regions, where the average ages are among the highest in the country. This trend entails the risk of a sudden decline in the number of available specialists and an increase in workload for younger employees. Additionally, the outflow of newly employed staff, who often do not decide to remain in the profession long-term, exacerbates the problem. Such dynamics may, in a short time, disrupt the continuity of care for patients, particularly in county hospitals and outpatient clinics. The absence of strategic actions, such as staff retention programmes or financial and professional development incentives, further increases the risk of system destabilisation. It has therefore become essential to implement development-oriented solutions and image-building measures to encourage younger generations to choose and remain in these professions. Otherwise, in the coming years, healthcare facilities will be forced to cope with a severe shortage of personnel. Consequently, human resource management in healthcare must become one of the key areas of public policy.

CONCLUSIONS AND RECOMMENDATIONS

Generational diversity, if properly managed, can become a strength of a medical institution rather than its problem. The conclusions are obvious - the lack of quick and decisive action may result in staff shortages in the coming years. On the other hand, conscious use of the potential of different generations and investment in future staff offers an opportunity to build a modern, flexible and more resilient healthcare system, responding to the needs of a dynamically changing society. It can therefore be concluded that properly undertaken management strategies will be the equivalent of burnout prevention and thus become a viable tool in building sound structures in health care. Generational diversity, when properly exploited, can become an essential tool in improving competence. In summary, generational change may become not only a challenge, but also a huge opportunity for a modern, better managed and more human approach to medicine. In Poland, issues related to human resources management in the health care system are treated superficially - both by policy makers and those managing medical institutions. A different model of management can be observed in EU and Scandinavian countries issues concerning human capital in health care have long been the subject of detailed analysis and research. The need for a thorough reform of human resource management - especially in public health care institutions – is supported by specific indications: -staff shortages, including among others doctors, nurses and laboratory diagnostic staff -the number of specialists is not increasing at a sufficient rate, most key medical specialities are under-represented and the need for medical services is growing and will continue to grow, mainly due to the progressive ageing of the population.

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HUMANITAS Zarządzanie 2025 (3), s. 71-92

Original Article

Received: 10.05.2025
Accepted: 4.07.2025/14.07.2025
Published: 30.09.2025

Sources of funding for publications: *CMQ Scientific Conference*

DOI: 10.5604/01.3001.0055.2897

Authors' Contribution:
(A) Study Design (projekt badania)
(B) Data Collection (zbieranie danych)
(C) Statistical Analysis (analiza statystyczna)
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AI-READINESS AND STRATEGIC ORIENTATION IN SME RETAILERS: A CONCEPTUAL FRAMEWORK FOR OMNI-CHANNEL TRANSFORMATION

GOTOWOŚĆ DO WPROWADZENIA SZTUCZNEJ INTELIGENCJI I ORIENTACJA STRATEGICZNA W MAŁYCH I ŚREDNICH PRZEDSIĘBIORSTWACH HANDLOWYCH: KONCEPCYJNE RAMY TRANSFORMACJI OMNI-CHANNEL

Abstract: This conceptual paper proposes a multi-theoretical framework to explain how small and medium-sized retailers integrate artificial intelligence (AI) to drive omni-channel transformation. Drawing on TOE, TAM, UTAUT, DCV, and customer experience theory, the model introduces four key constructs: AI-readiness, AI-orientation, AI-driven customer experience systems, and organizational agility. It posits that readiness and orientation lead to transformation, mediated by AI-enabled customer systems and moderated by organizational agility. The framework contributes by distinguishing strategic intent from capability and positioning customer experience systems as execution mechanisms. It offers practical implications for SME retailers, solution providers, and policymakers, while also laying a foundation for empirical testing in future research.

Keywords: AI Readiness, Omni-channel Transformation, SME Retailers, Strategic Orientation, Conceptual Framework

Streszczenie: W artykule koncepcyjnym zaproponowano wieloteoretyczne ramy wyjaśniające, w jaki sposób mali i średni detaliści integrują sztuczną inteligencję (AI) w celu przeprowadzenia transformacji wielokanałowej. Opierając się na teoriach TOE, TAM, UTAUT, DCV oraz teorii doświadczeń klientów, model wprowadza cztery kluczowe pojęcia: gotowość do wdrożenia AI, orientację na AI, systemy doświadczeń klientów oparte na AI oraz zwinność organizacyjną. Zakłada on, że gotowość i orientacja prowadzą do transformacji, w której pośredniczą systemy obsługi klienta oparte na AI, a moderuje zwinność organizacyjna. Ramy te przyczyniają się do rozróżnienia intencji strategicznych od możliwości i pozycjonowania systemów obsługi klienta jako mechanizmów wykonawczych. Oferują one praktyczne implikacje dla małych i średnich przedsiębiorstw detalicznych, dostawców rozwiązań i decydentów, a jednocześnie stanowią podstawę do empirycznych testów w przyszłych badaniach.

Słowa kluczowe: gotowość do AI, transformacja wielokanałowa, małe i średnie przedsiębiorstwa detaliczne, orientacja strategiczna, ramy koncepcyjne

INTRODUCTION

Small and medium-sized enterprises (SMEs) face increasing pressure to modernize their operations in response to digital transformation trends. Among the most transformative technologies reshaping the retail landscape is Artificial Intelligence (AI), which enables automation, personalization, predictive insights, and real-time service capabilities across channels. For SME retailers operating in increasingly omni-channel environments, the integration of AI holds significant potential to enhance customer experience, streamline operations, and support strategic decision-making[1]. However, despite the growing accessibility of AI tools, SMEs often differ widely in their capacity and willingness to adopt these technologies. Some are leading adopters, while others remain hesitant or unprepared, hindered by infrastructural gaps, skill shortages, or strategic ambiguity[2].

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The literature has extensively examined the technological and organizational prerequisites of AI adoption, as well as various behavioral and strategic factors driving digital transformation in SMEs[3]. Yet, there remains a limited conceptual understanding of capability-based readiness, intention-driven orientation, and system-level implementation interact to shape the outcomes of AI integration, particularly within omni-channel retail settings. Existing models tend to isolate these dimensions, resulting in fragmented insights and a lack of cohesive guidance for both researchers and practitioners[4].

To address this gap, this paper proposes a conceptual framework that integrates three interdependent dimensions of AI transformation: (1) AI-readiness, defined as the technical, human, and organizational infrastructure required for AI deployment[5]; (2) AI-orientation, capturing the strategic intent and cultural openness of a firm to engage with AI technologies[6]; and (3) AI-driven customer experience systems, operational mechanisms that translate AI capabilities into seamless, responsive, and personalized customer journeys[7]. Together, these constructs form the foundation for achieving omni-channel transformation, a retail strategy that synchronizes physical and digital interfaces to deliver unified consumer experiences[8].

The model also introduces organizational agility as a key moderator that enhances a firm's ability to adapt and scale AI initiatives under changing market

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[6] K. Abrokwah-Larbi, Y. Awuku-Larbi, *The impact of artificial intelligence*..., p. 110; N. Drydakis, *Artificial intelligence and reduced SMEs' business risks: A dynamic capabilities analysis during the COVID-19 pandemic*, „Information Systems Frontiers" 2022, 24(4), pp. 1223–1247.

[7] S.P.S. Ho, M.Y.C. Chow, *The role of artificial intelligence in consumers' brand preference for retail banks in Hong Kong*, „Journal of Financial Services Marketing" 2023; K.N. Lemon, P.C. Verhoef, Understanding customer experience throughout the customer journey, „Journal of Marketing" 2016, 80(6), pp. 69–96.

[8] I.R. Chiyem, P.N. Ofili, E.C. Nelson, E.M. Ebele, *Omni-channel retail strategies and customer loyalty: A focus on E-commerce stores in Nigeria*, „Edelweiss Applied Science and Technology" 2024, 8(6), pp. 6236–6250; D. Yunita, M. Adam, Z. Wahab, I. Andriana, W. Nailis, *Omni-Channel Strategy in the Digital Retail Environment*, „Management in Marketing Communications" 2024, p. 163.

conditions[9]. Drawing on multiple theoretical lenses, such as the Technology-Organization-Environment (TOE) framework[10], the Technology Acceptance Model (TAM)[11], the Unified Theory of Acceptance and Use of Technology (UTAUT)[12], the Dynamic Capabilities View (DCV)[13], customer experience theory[14], and the SERVQUAL model[15], the framework offers a layered, cross-disciplinary perspective that enriches the academic discourse on AI in SME retail contexts.

Importantly, while this framework is designed to apply to SMEs progressing toward or actively engaging in AI implementation, it also acknowledges the existence of SMEs that are not yet ready. For such firms, the framework serves not only as a diagnostic roadmap but also as a boundary marker, indicating the foundational capabilities and strategic orientations necessary for future participation in AI-enabled omni-channel ecosystems[16].

The objective of this study is to develop a theory-informed conceptual framework that synthesizes capability-based, intention-based, and system-level dynamics in the context of AI integration for omni-channel transformation. This framework is designed to serve as a foundation for future empirical research and offer SMEs, researchers, and policymakers a coherent perspective on enabling AI adoption and strategic alignment.

This paper is guided by the following theoretical question: ***How do AI-readiness and AI-orientation jointly influence omni-channel transformation in SME retailers, and through which mechanisms does this transformation unfold?***

To develop and justify this framework, the following sections review relevant literature on AI-readiness, AI-orientation, customer experience systems, and omni-channel strategy. The conceptual framework is then introduced and theoretically grounded, followed by a discussion of its implications and contributions.

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[9] M. Rožman, D. Oreški, K. Crnogaj, P. Tominc, *Agility and artificial intelligence adoption: Small vs. large enterprises*, „Naše gospodarstvo / Our Economy" 2023, 69(4); D.J. Teece, *Dynamic capabilities and entrepreneurial management in large organizations: Toward a theory of the (entrepreneurial) firm*, „European Economic Review" 2016, 86, pp. 202–216.

[10] L.G. Tornatzky, M. Fleischer, *The processes of technological innovation*, „Lexington Books" 1990.

[11] F.D. Davis, *Perceived usefulness, perceived ease of use, and user acceptance of information technology*, „MIS Quarterly" 1989, pp. 319–340.

[12] V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis, *User acceptance of information technology: Toward a unified view*, „MIS Quarterly" 2003, pp. 425–478.

[13] D.J. Teece, *Dynamic capabilities and entrepreneurial management*..., p. 210.

[14] K.N. Lemon, P.C. Verhoef, *Understanding customer experience*..., p. 75.

[15] A. Parasuraman, V.A. Zeithaml, L.L. Berry, *SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality*, „Journal of Retailing" 1988, 64(1), pp. 12–40.

[16] S.O. Alenezi, S.M. Isa, *A Mediated–moderated model for innovation attributes and E-commerce adoption of SMEs*, „International Journal of Electronic Commerce Studies" 2022, 13(3), pp. 185–208; N. Grashof, A. Kopka, *Artificial intelligence and radical innovation: an opportunity for all companies?*, „Small Business Economics" 2022, 61(2), pp. 771–797.

LITERATURE REVIEW

This section synthesizes key constructs and theoretical perspectives relevant to AI integration in SME retail contexts. It begins by outlining AI-readiness and the barriers that constrain it, followed by an exploration of AI-orientation as a strategic driver. The role of AI-driven customer experience systems is then examined, along with organizational agility as a moderating capability. Finally, the section introduces the theoretical foundations that support the proposed conceptual framework, drawing on models such as TOE, TAM, UTAUT, DCV, SERVQUAL, and customer experience theory.

AI-Readiness in SME Retailers

AI-readiness refers to the degree to which an organization is prepared—technically, strategically, and culturally – to adopt and integrate artificial intelligence tools into its operations. It encompasses a combination of digital infrastructure, data maturity, employee competencies, and managerial support that collectively enable firms to experiment with scale, and derive value from AI systems[17]. Within the context of SME retailers, AI-readiness is not merely about possessing technology; it also involves a mindset that embraces data-driven transformation, openness to innovation, and the organizational agility to reconfigure workflows[18].

However, AI-readiness in SMEs is uneven and highly contingent on both internal capabilities and external conditions. Research consistently finds that SMEs are less prepared than larger firms due to structural limitations, skill gaps, and contextual barriers[19]. Unlike larger corporations with dedicated innovation budgets and advanced IT departments, SME retailers often struggle to reach baseline digital maturity, let alone advanced AI deployment[20].

To better understand this variation, it is important to examine the key barriers that shape the AI-readiness landscape among SMEs. These challenges span across financial, technological, cultural, and institutional domains, and they frequently overlap. Table 1 below summarizes the five most cited categories of barriers, along with their core features and representative sources.

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[17] H. Alami, P. Lehoux, J.L. Denis, A. Motulsky, C. Petitgand, M. Savoldelli, J.P. Fortin, *Organizational readiness for artificial intelligence*..., p. 110; W.T.M. Yen, T.L. Hong, Y.Y. Yen, *A Proposed Framework for Assessing the Readiness of AI in Small and Medium Enterprises (SMEs) in Malaysia*, „Journal of Ecohumanism" 2024, 3(5), pp. 254–260.

[18] S.M. Saad, R. Bahadori, H. Jafarnejad, The smart SME technology readiness *assessment*..., p. 1042; D.J. Teece, *Dynamic capabilities and entrepreneurial management*..., p. 210.

[19] K. Abrokwah-Larbi, Y. Awuku-Larbi, *The impact of artificial intelligence*..., p. 110; M. Schönberger, *Artificial intelligence for small and medium-sized enterprises: Identifying key applications and challenges,* „Journal of Business Management" 2023, 21, pp. 89–112.

[20] A. Rawashdeh, *Determinants of artificial intelligence adoption in SMEs: The mediating role of accounting automation*, „International Journal of Data and Network Science" 2022, 7(1), pp. 25–34.

Table 1. Key Barriers to AI Adoption in SMEs
Tabela 1. Główne bariery we wdrażaniu sztucznej inteligencji w małych i średnich przedsiębiorstwach

Barrier Category	Description	Key Sources
Financial Constraints	Excessive costs of AI infrastructure, maintenance, and skilled labor limit adoption and scalability.	Schönberger (2023); Tominc et al. (2024); Ridho (2023)
Limited Knowledge & Expertise	Lack of internal skills and strategic understanding of AI use cases leads to underutilization and misalignment.	Sharma et al. (2022); Böhme et al. (2024); Tawil et al. (2024); Wulandari and Diko (2024)
Implementation & Integration Issues	Challenges with platform compatibility, staff onboarding, and performance measurement hinder operational use.	Gladysz et al. (2023); Fu et al. (2023)
Perceived Risks & Psychological Barriers	Fears of job loss, data misuse, and cultural resistance slow AI adoption.	Schoeman and Seymour (2022); Dhoni (2024); Nasution et al. (2024); Wulandari and Diko (2024)
External Environment & Market Dynamics	Unfavorable regulations, low demand, or poor infrastructure in some regions discourage AI adoption.	Rawashdeh (2022); Chatterjee et al. (2021); Abrokwah-Larbi and Awuku-Larbi (2023)

Source: Authors' compilation.

Rather than treating readiness as a binary concept (ready vs. not ready), literature increasingly views it as a continuum that evolves through stages of learning, experimentation, and reconfiguration[21]. This evolving nature of readiness is particularly relevant for SMEs navigating limited resources and uncertain markets. Consequently, AI-readiness is positioned in this framework as a foundational antecedent—one that influences not only the ability to adopt AI, but also the degree to which such adoption can lead to meaningful omni-channel transformation.

AI-Orientation and Strategic Intent in Retail SMEs

While AI-readiness reflects a firm's capacity to adopt artificial intelligence, AI-orientation refers to its strategic intent and cultural disposition toward em-

[21] D. Hammoudi Halat, R. Shami, A. Daud, W. Sami, A. Soltani, A. Malki, *Artificial Intelligence Readiness, Perceptions, and Educational Needs Among Dental Students: A Cross- Sectional Study*, „Clinical and Experimental Dental Research" 2024, 10(4), e925; S.I. Lemos, F.A. Ferreira, C. Zopounidis, E. Galariotis, N.C. Ferreira, *Artificial intelligence and change management in small and medium-sized enterprises: an analysis of dynamics within adaptation initiatives*, „Annals of Operations Research" 2022, pp. 1–27.

bracing AI technologies for innovation and long-term growth. It captures a firm's willingness to experiment with, invest in, and strategically embed AI within core business processes[22]. In SME retail contexts, where resource allocation decisions are highly constrained, AI-orientation serves as a critical determinant of whether firms move beyond digital inertia into proactive transformation.

Several studies emphasize that orientation toward AI is often rooted in leadership vision, openness to experimentation, and a digital-first mindset[23]. AI-oriented firms demonstrate a forward-looking stance that views AI not only as a tool for operational efficiency but also as a driver of strategic differentiation. This involves not just technological experimentation but also the integration of AI into decision-making, customer engagement, and innovation planning[24].

Importantly, AI-orientation is conceptually distinct from AI-readiness. While the former concerns strategic motivation, the latter addresses implementation capacity. However, both constructs are interdependent. As observed by Sharma et al. (2022), orientation without capability leads to stalled or misaligned adoption, whereas capability without orientation results in underutilization of potential. This reinforces the need to conceptualize AI-orientation as a complementary antecedent to AI-readiness in achieving omni-channel transformation.

From a theoretical standpoint, the TAM and UTAUT provide insight into the behavioral roots of AI-orientation. TAM emphasizes perceived usefulness and ease of use as drivers of technology intention[25], while UTAUT extends this to include facilitating conditions and social influence[26]. In SME settings, AI-orientation can thus be seen as an organizational-level aggregation of perceived strategic value, digital efficacy, and leadership-driven intention to innovate through AI[27].

AI-orientation also has a temporal dimension. As SMEs gain more exposure to digital tools, their orientation toward advanced technologies like AI can shift from reactive to proactive modes[28]. This dynamic nature implies that orientation evolves

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[22] N. Drydakis, *Artificial intelligence and reduced SMEs' business risks*..., p. 1238; N. Grashof, A. Kopka, *Artificial intelligence and radical innovation*..., p. 780.

[23] K. Abrokwah-Larbi, Y. Awuku-Larbi, *The impact of artificial intelligence*..., p. 110; A. Rahman, *AI and Machine Learning in Business Process Automation: Innovating Ways AI Can Enhance Operational Efficiencies or Customer Experiences in US Enterprises*, „Journal of Machine Learning, Data Engineering and Data Science" 2024, 1(01), pp. 41–62.

[24] M.H. Huang, R.T. Rust, *A strategic framework for artificial intelligence in marketing*, „Journal of the Academy of Marketing Science" 2021, 49(1), pp. 30–50.

[25] F.D. Davis, *Perceived usefulness, perceived ease of use*..., p. 328.

[26] V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis, *User acceptance of information technology*..., p. 430.

[27] I.K. Mensah, R. Wang, L. Gui, J. Wang, *Exploring the elements influencing the behavioral adoption of e-commerce by Chinese small and medium enterprises (SMEs)*, „Information Development" 2023, 39(4), pp. 679–698; M. Rožman, D. Oreški, K. Crnogaj, P. Tominc, *Agility and artificial intelligence adoption*..., p. 4.

[28] O. Johnson, W. Brown, G. Wilson, *Examining the Impact of Technology Adoption on Marketing Strategies in Retail*, „Preprints" 2024, 202407.1215.v1.

through cycles of experimentation, feedback, and cultural adaptation, often shaped by market signals, peer learning, and consumer behavior trends[29].

In short, AI-orientation represents a cognitive and cultural readiness to engage with AI in meaningful ways. When aligned with sufficient capability (AI-readiness), it enhances the firm's potential to strategically deploy AI systems that contribute to omni-channel integration and long-term competitiveness. Yet, strategic orientation and technical readiness alone are not sufficient, SMEs must also translate these internal conditions into actionable, customer-facing systems. The following section explores the role of AI-driven customer experience systems as the operational mechanisms that bridge intent and capability with tangible consumer outcomes.

AI-Driven Customer Experience Systems

Customer experience (CX) has emerged as a defining competitive factor in modern retail, particularly in omni-channel environments where interactions span digital and physical touchpoints. In this context, AI-driven customer experience systems refer to the operational application of artificial intelligence technologies, such as recommendation engines, chatbots, voice assistants, and predictive analytics, to personalize, streamline, and enhance consumer journeys across channels[30]. These systems operationalize the strategic intent and digital capabilities of firms into real-time customer engagement mechanisms, making them a central mediator in the relationship between AI-readiness/orientation and omni-channel transformation.

From a functional standpoint, AI-driven CX systems enable firms to deliver context-aware, personalized, and consistent experiences. Lemon and Verhoef (2016) highlight that value creation in customer journeys is no longer linear but occurs at various touchpoints, which require integrated technologies to deliver seamless transitions. AI supports this by predicting behavior, automating responses, and adapting offerings based on customer profiles and preferences[31]. In SMEs, such systems may include automated messaging, dynamic pricing, or adaptive product recommendations, all of which enhance perceived service quality and customer satisfaction[32].

These technologies are not merely functional tools, they are strategic assets that directly influence brand loyalty, retention, and conversion. AI-driven CX systems function as the tangible interface where internal AI capabilities are converted into

[29] N. Omrani, N. Rejeb, A. Maalaoui, M. Dabić, S. Kraus, *Drivers of digital transformation in SMEs*..., p. 5037.

[30] G. ElSayad, H. Mamdouh, *Are young adult consumers ready to be intelligent shoppers*..., p. 975; S.P.S. Ho, M.Y.C. Chow, *The role of artificial intelligence in consumers' brand preference*..., p. 7.

[31] X. Cheng, X. Zhang, B. Yang, Y. Fu, *An investigation on trust in AI-enabled collaboration*..., p. 5; A.R.A. Zahra, D. Jonas, I. Erliyani, N.A. Yusuf, *Assessing customer satisfaction in AI-powered services: An empirical study with SmartPLS*, „International Transactions on Artificial Intelligence" 2023, 2(1), pp. 81–89.

[32] A. Parasuraman, V.A. Zeithaml, L.. Berry, *SERVQUAL: A multiple-item scale*..., p. 25; D. Yunita, M. Adam, Z. Wahab, I. Andriana, W. Nailis, *Omni-Channel Strategy in the Digital R*etail..., p. 163.

market-level value[33]. Firms that strategically deploy AI across customer journeys demonstrate higher agility and responsiveness, which is especially valuable in volatile retail markets. As shown by Chiyem et al. (2024), seamless omni-channel experiences supported by AI significantly strengthen customer loyalty, even in highly price-sensitive contexts.

The mediating role of AI-driven customer experience systems in omni-channel transformation is thus twofold: they connect technical capacity (readiness) with strategic orientation (intent) and serve as the execution layer that brings customer-centric innovation to life. According to Brynjolfsson et al. (2013), firms that fail to integrate AI into customer experience risk falling into "experience fragmentation," where customer satisfaction declines due to inconsistent service delivery across platforms.

Moreover, these systems must be designed with adaptability and learning in mind. As customer needs evolve, AI tools must continuously refine their algorithms and decision rules. This iterative learning process reflects the firm's dynamic capability to manage customer data, feedback loops, and emerging technologies over time[34].

AI-driven customer experience systems therefore serve as the tangible link between internal AI capabilities and external value delivery. Yet the degree to which these systems translate into effective omni-channel transformation also depends on how agile an organization is in adapting to change, absorbing feedback, and reconfiguring its operations, an aspect explored in the next section on organizational agility.

Organizational Agility as a Moderating Capability

Organizational agility refers to a firm's ability to sense environmental changes and respond to them quickly through adaptive structures, decision-making processes, and operational flexibility[35]. In the context of AI integration among SMEs, agility becomes especially relevant as it enables firms to experiment, iterate, and scale innovative technologies in dynamic retail markets. While AI-readiness and AI-orientation provide the foundational capacity and motivation for transformation, agility moderates their effectiveness by influencing how well AI solutions are embedded, assessed, and adapted to customer needs and environmental shifts[36].

In digitally volatile environments, even well-resourced firms struggle without agility. SMEs with limited resources but high agility, by contrast, can pivot more effectively, absorb digital tools faster, and repurpose systems for evolving omni-channel demands[37]. This includes the ability to reconfigure AI-enabled touchpo-

[33] I. Khare, L.L. Rodrigues, S. Gulvady, S.S. Bhakta, G.K. Nair, A. Hussain, *Impact of business intelligence on company performance: a system dynamics approach*, „Folia Oeconomica Stetinensia" 2023, 23(2), pp. 183–203.

[34] E. Nichifor, R.C. Lixăndroiu, S. Sumedrea, I.B. Chițu, G. Brătucu, *How can SMEs become more sustainable*..., p. 6845; D.J. Teece, *Dynamic capabilities and entrepreneurial management*..., p. 210.

[35] Ibidem, p. 210.

[36] N. Omrani, N. Rejeb, A. Maalaoui, M. Dabić, S. Kraus, *Drivers of digital transformation in SMEs*..., p. 5037; M. Rožman, D. Oreški, K. Crnogaj, P. Tominc, *Agility and artificial intelligence adoption*..., p. 4.

[37] N. Grashof, A. Kopka, *Artificial intelligence and radical innovation*..., p. 780.

ints in response to shifting customer behaviors, market disruptions, or regulatory pressures. Research shows that agile SMEs more frequently translate digital potential into successful omni-channel executions[38].

From a theoretical standpoint, agility draws heavily from the Dynamic Capabilities View (DCV), which sees firms as evolving systems that survive through continuous learning and rapid reconfiguration[39]. While AI-readiness and AI-orientation are preconditions, agility determines the rate and resilience of transformation. SMEs without this moderating capability may implement AI superficially, failing to realize its long-term benefits or struggling to align it with changing business models[40].

Empirical evidence reinforces this role. Lawton et al. (2023) describe how agility-enhancing programs, like flexible workforce training and rapid prototyping cycles, have significantly improved AI outcomes in SME ecosystems. Rožman et al. (2023) found that organizational agility was the key differentiator in AI project success between small and large firms, even when technical infrastructure was comparable.

Thus, organizational agility is not an optional trait, it is a critical enabler of successful AI deployment. Positioned as a moderator in the conceptual framework, it shapes the strength and direction of the relationship between AI capabilities and omni-channel outcomes.

Omni-Channel Transformation in SMEs

Omni-channel transformation refers to a strategic and operational shift in which retailers integrate digital and physical channels to deliver seamless, consistent, and personalized customer experiences across all touchpoints[41]. Unlike multi-channel strategies, which operate in silos, omni-channel models emphasize integration of inventory systems, customer data, marketing, and logistics, to ensure continuity throughout the customer journey[42].

For SMEs, this transformation entails a reconfiguration of both technological infrastructure and customer-facing processes, requiring firms to adopt real-time data systems, unify service interfaces, and deliver adaptive shopping experiences regardless of entry point. However, many SMEs struggle to align internal resources with external demands due to limited capacity, inconsistent digital touchpoints, and fragmented data environments[43].

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[38] S.I. Lemos, F.A. Ferreira, C. Zopounidis, E. Galariotis, N.C. Ferreira, *Artificial intelligence and change management*..., p. 14.

[39] D.J. Teece, *Dynamic capabilities and entrepreneurial management*..., p. 210.

[40] S.I. Lemos, F.A. Ferreira, C. Zopounidis, E. Galariotis, N.C. Ferreira, *Artificial intelligence and change management*..., p. 14; A. Rahman, *AI and Machine Learning in Business Process Automation*..., p. 52.

[41] E. Brynjolfsson, Y.J. Hu, M.S. Rahman, *Competing in the age of omnichannel retailing*, „MIT Sloan Management Review" 2013.

[42] K.N. Lemon, P.C. Verhoef, Understanding customer experience..., p. 75; D. Yunita, M. Adam, Z. Wahab, I. Andriana, W. Nailis, *Omni-Channel Strategy in the Digital Retail*..., p. 163.

[43] M.D.T.P. Nasution, A. Rafiki, Y. Rossanty, C.K. Pahlufi, *Exploring Small and Medium Enterprises' Intention to Adopt AI-Powered Chatbots in Halal Marketing Communications*, „IQTISHODUNA:

Recent research highlights AI's significant role in enabling omni-channel transformation, particularly through systems that automate personalization, synchronize inventory across platforms, and predict customer behavior[44]. These technologies allow SMEs to deliver the value consistently across mobile apps, e-commerce sites, social media, and physical stores, enhancing both operational efficiency and customer satisfaction[45].

Therefore, in this framework, omni-channel transformation is treated as the ultimate outcome, enabled by AI-readiness and AI-orientation, mediated by customer experience systems, and conditioned by the firm's agility to reconfigure digital and physical resources in a unified strategy.

Multi-Theoretical Basis for the Conceptual Model

This section outlines the theoretical foundations that inform the proposed conceptual model. Drawing on technology adoption, strategic management, and service quality frameworks, the model synthesizes constructs rooted in organizational capability, intention, and system-level interactions. Four major theoretical lenses are integrated to explain the relationships between AI-readiness, AI-orientation, customer experience systems, organizational agility, and omni-channel transformation in SME retailers.

Technology-Organization-Environment (TOE) Framework

The TOE framework by Tornatzky and Fleischer (1990) is a widely adopted model for examining the adoption of innovations in organizations. It posits that adoption is influenced by three contexts: technological (e.g., perceived benefits and complexity), organizational (e.g., size, structure, resources), and environmental (e.g., market pressures, regulatory support). In the SME context, TOE is particularly relevant due to firms' sensitivity to external forces and internal constraints. Studies on AI adoption confirm that these three contextual dimensions strongly influence how SMEs evaluate and implement AI tools[46].

In this framework, AI-readiness maps onto the technological and organizational contexts, while external challenges discussed earlier represent environmental constraints. TOE thus provides the structural basis for understanding why some

Jurnal Ekonomi Islam" 2024, 13(1), pp. 35–58; M. Schönberger, *Artificial intelligence for small and medium-sized enterprises*..., p. 94.

[44] I. Khare, L.L. Rodrigues, S. Gulvady, S.S. Bhakta, G.K. Nair, A. Hussain, *Impact of business intelligence on company performance*..., p. 195; D. Yunita, M. Adam, Z. Wahab, I. Andriana, W. Nailis, *Omni-Channel Strategy in the Digital Retail*..., p. 163.

[45] A.R.A. Zahra, D. Jonas, I. Erliyani, N.A. Yusuf, *Assessing customer satisfaction in AI-powered services*..., p. 86.

[46] S. Badghish, Y.A. Soomro, *Artificial intelligence adoption by SMEs to achieve sustainable business performance: application of technology–organization–environment framework*, „Sustainability" 2024, 16(5), p. 1864; A. Rawashdeh, *Determinants of artificial intelligence adoption*..., p. 30.

SMEs adopt AI more effectively than others and supports the inclusion of both readiness and contextual barriers in the model.

TAM and UTAUT

The Technology Acceptance Model (TAM), developed by Davis (1989), and its successor, the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003), explain how perceived usefulness, ease of use, and facilitating conditions shape individuals' and organizations' intention to adopt technologies. In the SME setting, these theories are frequently extended to the organizational level to capture leadership perception, culture, and digital confidence as drivers of AI orientation[47].

TAM and UTAUT support the conceptualization of AI-orientation as a strategic-intent variable, rooted in beliefs about the value and usability of AI. These frameworks also justify the inclusion of internal beliefs and digital culture in shaping how AI is viewed, especially in environments where decision-makers' confidence and knowledge play a pivotal role in adoption[48].

Dynamic Capabilities View (DCV)

The Dynamic Capabilities View (DCV)[49] argues that firms succeed in turbulent environments not by static resource ownership but by reconfiguring resources to adapt and innovate. DCV aligns directly with the role of organizational agility in the conceptual model. As AI technologies evolve and customer behaviors shift, SMEs must possess the sensing, seizing, and transforming capabilities to continuously realign their digital and operational configurations.

This view strengthens the rationale for treating organizational agility as a moderator, not just a general trait, but a capability that influences how effectively readiness and orientation convert into meaningful transformation[50]. DCV also reinforces the feedback loops implicit in omni-channel settings, where organizations must continuously learn and adapt based on real-time customer data and shifting retail landscapes.

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47 I.K. Mensah, R. Wang, L. Gui, J. Wang, *Exploring the elements influencing the behavioral adoption*..., p. 687.

48 F. Schoeman, L.F. Seymour, *Understanding the Low Adoption of AI in South African Medium Sized Organisations*, „43rd Conference of the South African Institute of Computer Scientists and Information Technologists (SAICSIT)" 2022, pp. 257–269.

49 D.J. Teece, *Dynamic capabilities and entrepreneurial management*..., p. 210.

50 S.I. Lemos, F.A. Ferreira, C. Zopounidis, E. Galariotis, N.C. Ferreira, *Artificial intelligence and change management*..., p. 14; M. Rožman, D. Oreški, K. Crnogaj, P. Tominc, *Agility and artificial intelligence adoption*..., p. 4.

Customer Experience Theory and SERVQUAL Model

To anchor the role of AI-driven systems in improving customer interaction, the model draws on customer experience theory[51] and the SERVQUAL model[52]. These frameworks explain how consumers evaluate service quality through multi-stage, multi-touchpoint journeys, especially relevant in omni-channel retailing where AI interacts with users across web, mobile, and in-store environments.

These theories justify the inclusion of AI-driven customer experience systems as a mediator, as they represent the frontline translation of strategic capacity and technical readiness into customer-facing outcomes. They also explain why inconsistent or fragmented customer experiences, due to poor AI integration, can reduce satisfaction and loyalty, even when firms are technologically competent[53].

CONCEPTUAL FRAMEWORK

The proposed conceptual framework synthesizes constructs from TOE, TAM, UTAUT, DCV, and SERVQUAL model to explain how SME retailers integrate AI for omni-channel transformation. It builds on the assumption that effective AI deployment is shaped not only by infrastructure and intent, but also by the presence of execution systems and organizational adaptability. This integrated view responds to a growing gap in the literature, which often addresses these components in isolation[54].

At the foundation of the framework are two key antecedents: AI-readiness and AI-orientation. AI-readiness reflects an SME's technical and organizational preparedness to deploy AI systems, rooted in TOE's technological and organizational contexts[55]. Meanwhile, AI-orientation refers to the firm's strategic intent and openness to AI-based innovation, consistent with the attitudinal and behavioral assumptions in TAM and UTAUT[56]. These constructs, while distinct, often interact to shape how SMEs perceive, plan, and approach AI integration.

The framework introduces AI-driven customer experience systems as a mediator, the practical layer where strategic intent and digital capability are transla-

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51 K.N. Lemon, P.C. Verhoef, *Understanding customer experience...*, p. 75.

52 A. Parasuraman, V.A. Zeithaml, L.. Berry, *SERVQUAL: A multiple-item scale...*, p. 25.

53 A.R.A. Zahra, D. Jonas, I. Erliyani, N.A. Yusuf, *Assessing customer satisfaction in AI-powered services...*, p. 86.

54 S. Badghish, Y.A. Soomro, *Artificial intelligence adoption by SMEs to achieve sustainable business performance...*, p. 1864; F.D. Davis, *Perceived usefulness, perceived ease of use...*, p. 328; D.J. Teece, *Dynamic capabilities and entrepreneurial management...*, p. 210; V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis, *User acceptance of information technology...*, p. 430.

55 L.G. Tornatzky, M. Fleischer, *The processes of technological...*, p. 45; S.M. Saad, R. Bahadori, H. Jafarnejad, *The smart SME technology readiness assessment...*, p. 1042.

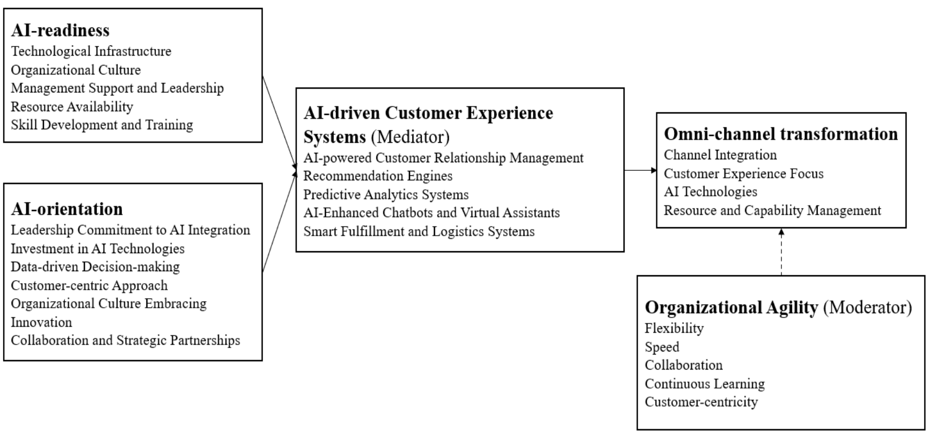
56 F.D. Davis, *Perceived usefulness, perceived ease of use...*, p. 328; V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis, *User acceptance of information technology...*, p. 430; I.K. Mensah, R. Wang, L. Gui, J. Wang, *Exploring the elements influencing the behavioral adoption...*, p. 687.

ted into customer-facing innovation. These systems include AI-powered tools like chatbots, recommendation engines, and predictive service interfaces, which align with SERVQUAL's emphasis on responsiveness, reliability, and assurance[57]. As such, they operationalize the strategic and technological foundation into tangible omni-channel experiences that meet evolving consumer expectations[58].

Further, the model positions organizational agility as a moderating variable, consistent with DCV, which emphasizes that competitive advantage arises from a firm's ability to reconfigure assets and routines in response to dynamic conditions[59]. In agile SMEs, the relationship between AI capabilities (readiness and orientation) and transformation outcomes is likely to be stronger, due to more responsive leadership, faster experimentation cycles, and adaptive workflows[60].

Together, these theoretical perspectives offer a coherent, non-overlapping foundation that connects structural capability, strategic intent, dynamic adaptation, and customer-facing execution into a unified conceptual model. This integrated perspective is depicted in Figure 1, which visualizes the multidimensional relationships proposed in this study.

Figure 1. Conceptual framework
Rysunek 1. Ramy koncepcyjne



Source: Constructed and compiled by the authors based on the examined literature.

57 A. Parasuraman, V.A. Zeithaml, L.L. Berry, *SERVQUAL: A multiple-item s*cale..., p. 25; A R.A. Zahra, D. Jonas, I. Erliyani, N.A. Yusuf, *Assessing customer satisfaction in AI-powered services: An empirical study with SmartPLS*, „International Transactions on Artificial Intelligence" 2023, 2(1), pp. 81–89.

58 K.N. Lemon, P.C. Verhoef, *Understanding customer experience*..., p. 75; X. Cheng, X. Zhang, B. Yang, Y. Fu, An investigation on trust in AI-enabled *collaboration*..., p. 5.

59 M. Rožman, D. Oreški, K. Crnogaj, P. Tominc, *Agility and artificial intelligence adoption*..., p. 4; D.J. Teece, *Dynamic capabilities and entrepreneurial management*..., p. 210.

60 S.I. Lemos, F.A. Ferreira, C. Zopounidis, E. Galariotis, N.C. Ferreira, *Artificial intelligence and change management*..., p. 14; R. Lawton, S. Boswell, K.C. Smiee, *The GM AI Foundry: A Model for Upskilling SME's in Responsible AI*, „2023 IEEE Symposium Series on Computational Intelligence (SSCI)" 2023, pp. 1781–1787.

Building on this framework, the study proposes the following relational statements to articulate how these constructs interact to enable AI-driven omni-channel transformation among SME retailers:

- **R1**. SME retailers with higher AI-readiness are more likely to achieve omni-channel transformation, particularly when AI-driven customer experience systems are effectively deployed.
- **R2**. SME retailers with stronger AI-orientation are more likely to proactively invest in and pursue AI-driven omni-channel transformation strategies.
- **R3**. The impact of both AI-readiness and AI-orientation on omni-channel transformation is mediated by AI-driven customer experience systems, which translate technical capability and strategic intent into tangible customer-facing innovations.
- **R4**. The effectiveness of AI-readiness and AI-orientation in enabling omni-channel transformation is moderated by organizational agility, which influences how well firms adapt and integrate AI-driven systems in dynamic market conditions.

This model provides a theory-informed basis for understanding how SMEs can evolve through AI adoption. It synthesizes capability, orientation, execution, and agility as interdependent elements, offering a structured lens for future empirical research and strategic decision-making in AI-enabled retail environments.

DISCUSSION

This conceptual paper contributes to the AI adoption scholarship by offering a theory-informed framework that explains how SME retailers transform through AI integration across converging physical and digital channels. Grounded in TOE, TAM, UTAUT, DCV, and SERVQUAL, the model advances a multi-layered perspective that integrates structural capability (AI-readiness), strategic intent (AI-orientation), system-level execution (AI-driven customer experience systems), and adaptive capacity (organizational agility)[61].

One *theoretical contribution* lies in the dual treatment of AI-readiness and AI-orientation, commonly viewed interchangeably, as distinct but interdependent constructs. This distinction addresses the limitations of capability-only models, where resource availability is seen as the sole predictor of transformation success[62]. By separating technical capacity from strategic motivation, the framework acknowledges that SMEs may possess infrastructure without intent, or intent without infrastructure, both insufficient for meaningful change[63].

[61] L.G. Tornatzky, M. Fleischer, The processes of technological..., p. 45; F. D. Davis, *Perceived usefulness, perceived ease of use*..., p. 328; D.J. Teece, *Dynamic capabilities and entrepreneurial management*..., p. 210; V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis, User acceptance of information technology..., p. 430; A. Parasuraman, V.A. Zeithaml, L.L. Berry, *SERVQUAL: A multiple-item scale*..., p. 25.

[62] R. Marohn, Y. Li, *Data Analytics Capability Maturity Models for Small and Medium Enterprises*..., p. 5; K. Abrokwah-Larbi, Y. Awuku-Larbi, *The impact of artificial intelligence*..., p. 110.

[63] S. Sharma, N. Islam, G. Singh, A. Dhir, *Why do retail customers adopt artificial intelligence (AI) based*

The inclusion of AI-driven customer experience systems as a mediator is another key contribution. Often treated as operational outputs, these systems are reframed here as strategic interfaces where AI capabilities directly influence customer satisfaction and loyalty[64]. Their mediating role reflects an execution logic: AI tools do not deliver value until translated into dynamic, customer-facing experiences[65].

Moreover, the role of organizational agility as a moderator highlights the importance of dynamic adaptation in enabling AI-based transformation. SMEs that can reconfigure workflows, pilot new tools, and realign operations in response to customer signals are more likely to benefit from AI investments[66]. This reflects a dynamic capabilities logic where transformation is not triggered by resources alone, but by the firm's ability to reorient those resources under change[67].

Practically, the framework offers a diagnostic lens for SME decision-makers to assess AI-related gaps not just in infrastructure, but in strategic posture, execution design, and organizational learning. It also offers utility for AI vendors and consultants in designing modular and scalable customer experience solutions aligned with the SME maturity spectrum[68]. Policy implications are equally relevant: national AI strategies that aim to stimulate SME adoption must go beyond funding access and address capability building, change readiness, and adaptive skills development[69].

CONCLUSION

This paper develops a conceptual framework to explain how SME retailers integrate AI into omni-channel operations through the interplay of organizational capability, strategic intent, system-level execution, and adaptive flexibility. Grounded in multi-theoretical foundations, TOE, TAM, UTAUT, DCV, and SERVQUAL, the model articulates

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autonomous decision-making systems?, „IEEE Transactions on Engineering Management" 2022, 71, pp. 1846–1861; O. Johnson, W. Brown, G. Wilson, *Examining the Impact of Technology Adoption...*, p. 3.

64 I.R. Chiyem, P.N. Ofili, E.C. Nelson, E.M. Ebele, *Omni-channel retail strategies...*, p. 6245; K.N. Lemon, P.C. Verhoef, *Understanding customer experience...*, p. 75.

65 A.R.A. Zahra, D. Jonas, I. Erliyani, N.A. Yusuf, *Assessing customer satisfaction in AI-powered services...*, p. 86; X. Cheng, X. Zhang, B. Yang, Y. Fu, *An investigation on trust in AI-enabled collaboration...*, p. 5.

66 S.I. Lemos, F.A. Ferreira, C. Zopounidis, E. Galariotis, N.C. Ferreira, *Artificial intelligence and change management...*, p. 14; M. Rožman, D. Oreški, K. Crnogaj, P. Tominc, *Agility and artificial intelligence adoption...*, p. 4.

67 D.J. Teece, *Dynamic capabilities and entrepreneurial management...*, p. 210; R. Lawton, S. Boswell, K.C. Smiee, The GM AI Foundry..., p. 1783.

68 B. Gladysz, D. Matteri, K. Ejsmont, D. Corti, A. Bettoni, R. Haber Guerra, Platform-based support for AI uptake by SMEs..., p. 470; G. ElSayad, H. Mamdouh, *Are young adult consumers ready to be intelligent shoppers...*, p. 975.

69 F. Schoeman, L.F. Seymour, *Understanding the Low Adoption of AI in South African Medium Sized Organisations*, „43rd Conference of the South African Institute of Computer Scientists and Information Technologists (SAICSIT)" 2022, pp. 257–269; H.P. Fu, T. Chang, S.W. Lin, Y.H. Teng, *Evaluation and adoption of artificial intelligence in the retail industry*, „International Journal of Retail & Distribution Management" 2023, 51(6), pp. 773–790.

four relational propositions linking AI-readiness and AI-orientation to omni-channel transformation, with AI-driven customer experience systems as a mediator and organizational agility as a moderator. In doing so, it provides a structured, theory-informed lens for understanding AI-enabled change in small-scale retail environments.

Limitations

As a conceptual study, the model is built on theoretical synthesis rather than empirical testing. While this approach enables theoretical depth, it also limits the generalizability of the framework until it is validated in practice. Moreover, the model focuses specifically on the retail SME context; its applicability to other sectors or larger enterprises may require adaptation. Another limitation is the assumption that AI-readiness and orientation evolve concurrently, which may not reflect firms that are technically prepared but strategically hesitant, or vice versa.

Future Research Directions

Future research should focus on empirically validating the proposed framework and its relational propositions. Quantitative studies could test the strength and significance of the R1 –R4 pathways across diverse types of SMEs, using structural equation modeling or hierarchical regression. Qualitative methods, such as case studies or longitudinal fieldwork, may offer insight into how agility moderates AI adoption over time, particularly in volatile retail environments. Cross-national comparative studies could explore how institutional and cultural contexts affect the formation of AI-readiness and orientation. In addition, future work could examine specific AI tools or customer experience platforms as embedded mechanisms within transformation processes. Exploring the readiness of firms that have not yet begun AI adoption also represents an important research avenue, especially to support inclusive digital transitions in underserved or resource-constrained markets.

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The contribution of particular co-authors to preparation of the paper:
Wkład poszczególnych autorów w przygotowanie publikacji:
Nino Papashvili-Bodai – 50%, András Kovács – 50%

HUMANITAS Zarządzanie 2025 (3), s. 93-114

Original Article

Received: 10.05.2025
Accepted: 4.07.2025/14.07.2025
Published: 30.09.2025

Sources of funding for publications: *Humanitas University in Sosnowiec*

DOI: 10.5604/01.3001.0055.2898

Authors' Contribution:
- (A) Study Design (projekt badania)
- (B) Data Collection (zbieranie danych)
- (C) Statistical Analysis (analiza statystyczna)
- (D) Data Interpretation (interpretacja danych)
- (E) Manuscript Preparation (redagowanie opracowania)
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THE USE OF AI IN MANAGERIAL DECISION-MAKING PROCESS AND THE FACTORS THAT INFLUENCE IT

WYKORZYSTANIE SZTUCZNEJ INTELIGENCJI W PROCESIE PODEJMOWANIA DECYZJI ZARZĄDCZYCH I CZYNNIKI, KTÓRE MAJĄ NA TO WPŁYW

Abstract: Artificial intelligence influences decision-making in sales processes, they are influenced by our character, education and other factors, which will be discussed in the following article.

Keywords: AI, managerial decision-making, nature and artificial intelligence, the use of new technologies in sales

Streszczenie: Sztuczna inteligencja wpływa na podejmowanie decyzji w procesach sprzedaży, na które wpływ ma nasz charakter, wykształcenie i inne czynniki, które zostaną omówione w poniższym artykule.

Słowa kluczowe: sztuczna inteligencja, podejmowanie decyzji menedżerskich, natura i sztuczna inteligencja, wykorzystanie nowych technologii w sprzedaży

ADMISSION

Contemporary strategic management operates in a dynamically changing market environment, in which the pace of technological development is the main challenge for managers. The growing importance of data as a strategic resource, its growing amount and the need for its ongoing analysis mean that traditional decision-making methods are no longer sufficient. Executive decisions that used to be based on intuition, experience, and limited data sets now require the support of advanced technology tools capable of processing information in real time. In this context, artificial intelligence (AI) appears to be a new management paradigm, redefining the way organizations analyze, predict and make decisions. The purpose of this scientific article is to identify the factors that influence managerial decision-making with AI washing. Managerial decisions determine the directions of the organization's development, affect the allocation of resources and determine the ways of responding to changes in the environment. Their quality translates directlyinto the efficiency of the functioning of enterprises, and thus into their competitive advantage. In the age of digitalization and globalization, these decisions must be made quickly, flexibly and based on reliable data analysis. For this reason, managers are increasingly using AI tools that allow them to identify hidden patterns, predictive analysis, and optimize decision-making processes. The use of AI in sales management allows not only to predict trends more effectively, but also to personalize offers, manage customer relationships, and automate routine activities[1]. The development of AI, based on machine learning, natural language processing and big data analytics, makes it possible to transform decision-making processes into more precise, faster and less prone to cognitive biases. Algorithms analyze historical data, consumer behavior, macroeconomic parameters, and market feedback, providing management with a comprehensive picture of the situation and facilitating the selection of optimal strategies. Unlike traditional decision-making methods, AI reduces the influence of subjective judgments and intuition, which translates into higher accuracy of the decisions made. The challenges faced by today's management staff relate not only to the complexity of the market environment, but also to the need to adapt to new models of human-technology cooperation. This change requires managers not only to be digitally competent, but also to be able to interpret algorithmic outcomes, think critically, and be willing to redefine their role in decision-making. Artificial intelligence does not replace human decisions, but supports them in data analysis and predicting impacts, creating the basis for more rational and effective management[2]. In this context, AI is becoming not only a technological tool, but also a factor

[1] R. Bandara, M. Fernando, S. Akter, *Algorithm aversion in artificial intelligence-driven decision-making*, „Information Systems Frontiers" 2019, nr 21(3), p. 637–652.
[2] E. Brynjolfsson, A. McAfee, *Machine, platform, crowd: Harnessing our digital future*, W.W. Norton & Company, 2017, p. 637-652.

changing the organizational culture, leadership model, and responsibility structure in organizations. Its integration into management processes requires a well-thought-out strategy, appropriate resources and interdepartmental cooperation. The role of AIin data analysis and prediction is crucial to ensure competitiveness in the conditions of the fourth industrial revolution and the digital economy. It is at the junction of human intuition and algorithmic precision that a new quality of managerial decisions is born, in which AI is not a threat, but a partner in the pursuit of efficiency and innovation[3].

The historical context of the development of information technologies indicates that each successive wave of innovation brought changes in the structure and style of management. These changes concernednot only the way of communication or the flow of information, but above all the decision-making processes. The introduction of computers, ERP systems or mobile technologies was only a transitional stage towards the use of AI, which offers much greater potential in terms of data analysis and prediction of the effects of decisions made. By using deep learning and neural networks, AI can identify correlations and patterns that humans don't notice, adding value to executives[4]. Today's approach to management requires leaders to not only understand technology, but also to be able to see its implications for organizational structures, company culture, and business models. Artificial intelligence can affect the decentralization of decisions, shorten communication chains and increase transparency in the organization. At the same time, it is associated with technological and ethical risks and the need to remain responsible for decisions made with the use of AI. For these reasons, it becomes necessary to develop a legal and ethical framework for the use of AI in management that will minimize risks and maximize benefits[5]. Digital transformation, catalytic by AI, is changing not only managers' work tools, but also the way they think, plan and predict the future. AI-powered predictive analytics allow for modeling strategic scenarios, testing hypotheses, and making decisions based on empirical data, not just intuition or experience. Thus, artificial intelligence is becoming an indispensable element of managing the future, allowing organizationsto better adapt to market volatility and increase strategic flexibility. It should be emphasized that the effective integration of AI with management processes requires a paradigm shift in managerial education. Traditional training programs must be complemented with digital, analytical and ethical competencies that will enable the leaders of the future to interact effectively with technology. Only in this way will it be possible to use the full potential of AI in building organizational value and competitive advantage.

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[3] I. Aldridge, *The AI revolution: From linear regression to ChatGPT and beyond and how it all connects to finance*, „Journal of Portfolio Managemen" 2023, 49(9), s. 64–77.

[4] E. Brynjolfsson, A. McAfee, *Machine…*, s. 64-77.

[5] T.H. Davenport, R. Ronanki, *Artificial intelligence for the real world*, „Harvard Business Review" 2018, 96(1), p. 108–116.

LITERATURE REVIEW

The use of artificial intelligence in strategic management is becoming more and more widely used, especially in the context of improving the effectiveness and quality of managerial decisions. AI, based on machine learning algorithms and data analytics, offers tools that allow you to process huge amounts of information in real time. This supports managers in making decisions not only faster, but also more accurately, by reducing the risk of cognitive biases and subjectivity. AI's ability to recognize patterns, detect anomalies, and forecast trends makes it an effective tool to support decision-making in conditions of uncertainty and volatility. One of the key applications of AI in management is forecasting market phenomena such as demand, customer behavior, and price fluctuations. Algorithms that learn from historical data are able to pinpoint future trends, allowing managers to make proactive decisions rather than just reactive ones. For example, in the retail sector, the use of AI in demand forecasting makes it possible to optimize inventory levels, reducing storage costs and minimizing the risk of product outages. In the financial sector, on the other hand, AI analyzes macroeconomic and transactional data in real time, indicating potential investment risks and supporting portfolio management[6]. AI also has a significant impact on data analysis, which in traditional conditions was time-consuming and limited by human cognitive capabilities. The use of AI-based Business Intelligence systems allows for quick and automated analysis of huge data sets from various sources, such as CRM, ERP or social media systems. This analysis can include not only quantitative data, but also unstructured data such as texts, images, or videos. As a result, managers gain access to more complex and multidimensional information that allows them to make better informed decisions. In terms of optimizing operational activities, AI enables the improvement of many processes, including production planning, logistics management, resource allocation or personalization of offers for customers. For example, in the manufacturing industry, the use of AI in predictive maintenance allows for the prediction of machine failures and their preventive servicing, which reduces downtime and increases the efficiency of production lines. In logistics, algorithms optimize delivery routes, taking into account factors such as traffic, weather conditions, and fuel costs, which translates into financial savings and improved customer service[7].

Artificial intelligence also supports strategic decision-making, offering tools for scenario analysis, simulation, and modeling of future events. This allows

[6] R. Gavval, G. Chandrasekaran, D. Mittal, *Intelligent CRM in the era of big data and artificial intelligence*, Journal of Advanced Research in Dynamical and Control Systems, 11(6), 2019, p. 174–181.
[7] M. Hossam, M. Gamil, O. Abd El-Wahab, *Predictive analytics in sales forecasting: Role of AI in optimizing commercial outcomes*, „Journal of Business Research" 2024, 164, p. 114-562.

managers to better prepare for different variants of the future, which is crucial in risk management and building a long-term development strategy. Combined with the capabilities of predictive analytics, AI gives management the tools not only to predict the effects of decisions, but also to assess their profitability and potential impact on various aspects of the organization's operations. The increase in operational efficiency thanks to the implementation of AI has been documented in many studies and case studies. For example, companies such as Amazon, Google, and Siemens use AI to automate purchasing processes, customer service, and optimize the supply chain, which contributes to reducing operating costs and increasing customer satisfaction. In the health sector, AI supports the diagnosis of diseases based on medical images, which translates into faster and more accurate medical intervention. Such effects prove that AI not only supports decision-making processes, but is becoming an integral part of the growth and innovation strategy[8].

In the context of eliminating cognitive biases, artificial intelligence plays an important role as a tool to reduce the impact of subjective judgments and emotions on managerial decisions. Errors such as confirmation bias, availability heuristics, and overconfidence can lead to suboptimal decisions, especially in situations of uncertainty. AI, acting on the basis of objective data and standardized algorithms, can counteract these phenomena by identifying alternative scenarios and assessing their probability without the influence of emotions. In addition, AI tools can be programmed in a way that takes into account human cognitive limitations, which allows them to be mitigated and make decisions more accurate[9]. One aspect of improving the quality of decisions is also the ability to audit the decision-making path provided by many AI-based systems. The transparency of the analytical process and the possibility of retrospective analysis of the data on the basis of which the decision was made is conducive to the development of an organizational culture based on learning and continuous improvement. This approach not only supports the quality of decisions, but also builds trust in technology among employees and executives. The applications of artificial intelligence in managerial decision management, their effectiveness and optimization, presented in this section, are one of the key links in the answer to the research question of the article. The presented technological mechanisms form the foundation on which further aspects of AI implementation are based, including psychological and organizational conditions, which will be the subject of further considerations.

[8] E. Jussupow, A. Heinzl, K. Spohrer, *Unblackboxing the black box: How explainability influences AI adoption in decision-making.* In: Proceedings of the 28th European Conference on Information Systems (ECIS), 2020, p. 116-124.

[9] Ibidem, p. 76-82.

FACTORS INFLUENCING THE USE OF AI IN MANAGERIAL DECISION-MAKING

The use of artificial intelligence in management cannot be analyzed only from a technological or economic perspective. Psychological, competency, and organizational factors also play an important role, determining the pace, scope, and effectiveness of AI-based tool adaptation. Despite the proven benefits of using artificial intelligence, many managers and employees are skeptical about these solutions, due to deeper-rooted psychological barriers. In the literature on the subject, the term „AI aversion" appears, meaning the reluctance to make decisions or entrust responsibility to systems based on artificial intelligence. This phenomenon can have various sources, from fear of losing control, to a lack of trust in algorithms, to uncertainty about the reliability of the results generated by AI[10]. The fear of losing control over decision-making processes is one of the most frequently cited reasons for resistance to AI technology. Managers who have built their position over the years based on experience and intuition may see algorithms as a threat to their role in the organization. Such an attitude can lead to sabotage of implementations, delay of integration processes, or selective use of AI tools. On the other hand, the lack of trust in AI systems often results from a lack of transparency of algorithms (the so-called black-box problem), which makes it difficult to assess whether AI-generated decisions are rational and in line with organizational goals.

In the context of management styles, it is equally important to understand how leaders respond to technological change. The authoritarian style, characterized by the centralization of power and decision-making without consultation, may be less susceptible to AI integration because it limits the flow of information and openness to new solutions. In contrast, a participatory or transformational style promotes collaboration, innovation, and organizational learning, which fosters the adoption of AI technology. Managers who are open to change, ready to experiment and accept risk are more likely to adapt to new decision-making models in which AI plays a key role[11].

The implementation of AI is also associated with the need to redefine professional roles and work structures in organizations. The automation of some tasks leads to a shift in emphasis from performing routine activities to activities that require interpersonal skills, creativity and analytical skills. Employees must adapt to working with technology, learning to interpret data, understand the results of AI-generated analyses, and make decisions based on them. This requires not only technical training, but also the development of soft skills and adaptability.

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[10] A. Kowalczyk, M. Roszyk-Kowalska, *Information Management in Decision-Making Processes*, Publishing House of the Poznań University of Economics and Business, Poznań 2016, p. 116-128.

[11] K. Malewska, *Strategic decisions in conditions of uncertainty – a behavioural approach*, Poznań University of Economics Press, Poznań 2018, p. 128-132.

Changing the organizational structure is another aspect accompanying the implementation of AI. Many organizations are moving from traditional, hierarchical models to more networked and flexible structures where cross-functional teams collaborate to drive technology innovation. This approach fosters knowledge sharing, faster decision-making, and better alignment of technology with business needs. AI is therefore becoming an impulse to redesign internal processes, redefine competences and rebuild incentive systems. The implementation of AI can also lead to tensions and conflicts resulting from job insecurity, fear of losing a jo or a sense of marginalization of certain professional groups. Managers responsible for change must therefore not only plan the technological process, but also manage emotions, expectations and resistance from employees. Effective communication, a participatory approach to implementations and ensuring a sense of security are becoming key success factors in the digital transformation process[12]. Education and building technological awareness among managers and employees play a special role in overcoming psychological barriers. Only understanding the potential and limitations of AI can lead to a rational assessment of the benefits and risks associated with its use. Organizations that invest in digital competence development, reskilling programs, and promoting open-minded attitudes to innovation are more likely to successfully implement AI solutions. It is worth noting that the degree of openness of an organization to AI may depend on its digital maturity, business model, and organizational culture. Companies operating in high-tech sectors such as IT, finance and e-commerce adopt new technologies faster and have structures more conducive to experimentation. Traditional organizations, on the other hand, with strong hierarchies and conservative values, may require more support in the transformation process[13]. The analysis of the psychological and organizational determinants of AI implementation provides further arguments to answer the research question posed. Understanding the barriers and internal factors of an organization is critical to the successful implementation of technology and provides a background for further consideration of the managerial competencies necessary in the era of artificial intelligence.

Implementing artificial intelligence into management practice cannot be effective without proper preparation of the management staff. Managerial competencies play a key role in the process of adapting AI tools, determining not only the pace of technology implementation, but also its impact on the functioning of the organization. A modern leader should demonstrate a set of competencies that enable not only understanding the operation of algorithms, but also their critical evaluation and practical application in the context of organizational strategy. Digital, interpretive and analytical competences are of particular importance in this context[14]. Digital competence refers to the ability

[12] K. Malewska, *Decyzje…*, p. 140-148.

[13] A. Ozan, *The use of NLP in customer experience optimization: A case study from e-commerce*, „Journal of Retailing and Consumer Services" 2021, nr 62, 2021, p. 102-643.

[14] Ibidem.

to use digital tools, understand the basic principles of information technologies and use decision-support systems. In the context of AI, managers should be able to assess data quality, understand predictive modeling mechanisms, and know the limitations of the solutions used. A lack of these competencies can lead to misunderstanding of analysis results, misinterpretation of data, or misuse of AI systems in decision-making processes. That's why it's so important for leaders to not only use technology, but also have the skills to apply it meaningfully and responsibly[15].

Interpretive competence is indispensable in situations where the data provided by AI systems needs to be embedded in an organizational, strategic, or market context. A manager should not treat the results of algorithms as unquestionable recommendations, but as support in making decisions that require taking into account broader conditions, such as company policy, stakeholder needs or long-term goals. Interpreting data requires not only technical knowledge, but also critical thinking skills, the ability to draw conclusions and predict the effects of decisions. Only then can AI be effectively integrated into management practice.

Analytical competences, on the other hand, are the foundation of the effective use of AI in data analysis, scenario modeling, and risk assessment. A manager should be able to formulate decision-making problems in a way that can be implemented in analytical systems, and then to analyze the results in a way that is consistent with organizational goals. Statistical skills, logic, understanding of mathematical modeling and the basics of programming become an important element of the competence portfolio of a modern leader in this context. However, technical competence is not enough[16]. In the context of strategic management, the importance of emotional intelligence and adaptability is growing, which determine effectiveness in change management, cooperation with interdisciplinary teams and building a culture of openness to innovation. Emotional intelligence includes the ability to recognize and manage one's own emotions and those of others, which is crucial in situations of resistance to change, conflict, or uncertainty related to new technology. Leaders with high emotional intelligence are able to communicate effectively with employees, engage them in onboarding processes, and minimize anxiety and stress levels. Adaptability refers to the ability to react quickly to change, flexible thinking and readiness to modify existing patterns of action. In the conditions of the constantly changing technological environment, the ability to learn, reformulate strategies and experiment becomes a superior value. Managers who can adapt to new conditions create more resilient and innovative organizations, capable of competing in the conditions of the fourth industrial revolution[17].

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15 J. Salinas, F. Rojas, L. Herrera, *Decision support systems using artificial intelligence for sales planning*, „Expert Systems with Applications" 2017, nr 89, p. 145-156.

16 J. Salinas, F. Rojas, L. Herrera, *Decision…*, p. 145-156.

17 M.H. Bazerman, D.A. Moore, *Judgment in managerial decision making* (8th ed.), Wiley 2019, p. 150-158.

The use of AI in management therefore requires investment not only in technologies, but also in the development of managerial competences. A key role in this process is played by training and education of managers, which should be adapted to the specifics of the industry, the level of digital maturity of the organization and the individual needs of the participants. Training programs should combine knowledge of AI technology with change management, communication, teamwork, and leadership skills. In this context, it is also important to support the development of transformational leadership, which promotes openness to innovation, employee engagement and the pursuit of continuous improvement[18]. An important aspect is also the creation of platforms for the exchange of knowledge and good practices that allow leaders to learn from each other and jointly solve problems related to the implementation of AI. Conferences, industry forums, mentoring programs and cooperation with academic centers can provide significant support for the educational process. In addition, it is worth supporting the development of an organizational culture conducive to learning and experimentation, in which mistakes are treated as a source of knowledge, not a failure. The issue of managerial competences, which is another aspect of the answer to the research question posed, shows how important the role of AI is in effective managerial decision-making. It is the quality and structure of competences that determines whether technology will be effectively used in the decision-making process.

The literature on the subject increasingly emphasizes the growing role of artificial intelligence in strategic management processes, in particular in the context of managerial decision-making. An important area of analysis is the dynamics of AI adaptation, differences between organizations, and challenges related to staff competencies and management frameworks. A McKinsey & Company study shows that in 2022, more than 50% of organizations reported using AI in at least one function (compared to 20% in 2017), showing a rapid increase in adoption. The average number of AI applications in organizations increased from 1.9 to 3.8 between 2018 and 2022, demonstrating the expansion of features supported by technologies such as predictive analytics or NLP[19]. The latest McKinsey report from March 2025 highlights that generative AI (gen-AI) has been used in at least one function in about 75% of organizations and is seen as a driver of qualitative change in decision-making processes[20].

PwC's analysis shows a clear variation in the scale of AI implementation depending on the size of companies. According to the report, companies with revenues above $25 billion declare much larger plans to integrate AI than those with

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[18] A. Binns, P. Kumar, *Managing the risks of artificial intelligence in organizational decision-making*, Springer, 2020, p. 58-62.

[19] McKinsey & Company, *The state of AI in 2022—and a half decade in review, 2022.*

[20] McKinsey & Company, *The state of AI: How organizations are rewiring to capture value*, 2025.

revenues below $100 million, which shows a strong relationship between wealth and technology readiness[21]. In addition, nearly half of technology leaders said AI is already „fully integrated" into their strategy, and a third pointed to the integration of AI into products and services[22]. A 2023 Fortune/Deloitte study indicates that more than half of corporate CEOs have tested gen-AI tools, and some of them have already started implementations. A large majority (79%) declare that AI will improve operational efficiency, and more than half see it as a source of revenue growth[23]. Despite this, a significant group of leaders – around 37% – admit that their organisations are not yet well prepared for AI implementations, suggesting that there is a skills and organisational gap[24].

The framework for formalizing AI governance processes is also gaining importance. McKinsey (2023) found that while the majority of companies (55%) use AI in at least one function, only a fraction of them (around a fifth) have official policies related to the use of gen-AI, and 40% plan to increase their investment in AI. Only a few organizations employ prompt engineering specialists[25]. Deloitte AI Institute data also suggests that many leaders are not yet ready to comprehensively manage AI implementations[26]. As a consequence, there are problems related to trust in the results of algorithms and data interpretation, which significantly affects the quality of managerial decisions.

The issue of return on investment is the subject of numerous analyses. According to PwC (2024), organizations that have successfully implemented AI achieve productivity gains of 20-30% – this translates into faster time to market and improved fit, as well as reduced operating costs. While these predictions may vary by industry, they confirm the real, measurable benefits of AI[27]. In addition, according to a PwC survey from April 2025, the global economy could gain up to 15 percentage points of GDP within a decade if the implementation of AI technologies is managed responsibly and in a socially trusted manner[28]. McKinsey (2023), on the other hand, indicates that automation and gen-AI can contribute to productivity growth between 0.5–3.4 percentage points per year, of which 0.1–0.6 points come directly from gen-AI[29].

The collected empirical data clearly confirm that the effectiveness of managerial decisions using AI depends on several complementary factors: the wealth of the organization, the readiness of the staff, the availability of the governance framework and

[21] PwC, *AI adoption could boost global GDP by up to 15 percentage points by 2035*, 2025, April 29.
[22] PwC, *2025 AI business predictions: Pulse survey of technology leaders*, 2024, October.
[23] Deloitte, *Fortune/Deloitte CEO survey*, Summer 2023.
[24] Ibidem.
[25] McKinsey & Company, *The state of AI in 2023: Generative AI's breakout year*, 2023.
[26] Deloitte AI Institute, *The state of generative AI in the enterprise: Q4 report, 2024.*
[27] PwC, *2025 AI business predictions: Pulse survey of technology leaders*, 2024.
[28] Ibidem.
[29] McKinsey & Company, *The state…*

actual technical competences. The integration of technology must go hand in hand with structural and interpretive adaptation to generate both operational and strategic effects.

Today, generative AI is becoming not only an analytical tool, but also a driver of transformation of leadership models, organizational learning processes and knowledge management. Only such an integrated model – combining technology, competences and responsible management – allows you to fully use the potential of AI in the context of making accurate and effective decisions made under the influence of a dynamically changing market environment.

To sum up, the analysis of the literature on the subject made it possible to take into account three key factors shaping the use of AI in managerial decision-making, i.e. technological, psychological and competency. The results of the study showed that AI supports managers in forecasting, data analysis and optimization of activities, contributing to increased decision-effectiveness[30]. At the same time, attention was paid to psychological and organizational barriers, such as AI aversion, lack of trust or fear of losing control. It also highlighted the key competences necessary for the effective use of AI, in particular digital, interpretive, analytical, emotional intelligence and adaptability[31].

Table 1 lists the key factors influencing the management decision-making process in the context of AI integration, indicating both the technological, psychological and competence aspects.

Table 1. Factors influencing the process of making managerial decisions using AI
Tabela 1. Czynniki wpływające na proces podejmowania decyzji zarządczych z wykorzystaniem sztucznej inteligencji

Factors	Authors	Source
AI aversion and fear of losing control	Dietvorst, Simmons, Massey	Dietvorst B.J., Simmons J.P., & Massey C. (2015), *Algorithm aversion*, „Journal of Experimental Psychology: General", 144(1), 114–126.
Lack of trust in algorithms and opacity of AI systems	Castle, Bos, Lehmann	Castelo N., Bos, M.W., & Lehmann D.R. (2019), *Task-dependent algorithm aversion*. „Journal of Marketing Research" 56(5), 809–825.
Digital and analytical competences of managers	Bazerman, McAfee	Brynjolfsson E., & McAfee A. (2014), *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W.W. Norton & Company.

30 W. Kieżun, *Efficient management of the organization*, Warsaw School of Economics, 2008, p. 98-110

31 L. Floridi, J. Cowls, M. Beltrametti et al., *AI4People – An ethical framework for a good AI socjety*, „Minds and Machines" 2018, nr 28(4), p. 689-707.

Factors	Authors	Source
Interpretive competence and the ability to embed data in an organizational context	Davenport, Ronanki	Davenport T.H., & Ronanki R. (2018, January–February), *Artificial intelligence for the real world*, Harvard Business Review, *96*(1), 108–116.
Emotional intelligence as a condition for change management	Goleman	Goleman D. (1998), *Working with emotional intelligence*. Bantam Books.
Adaptability of organizational leaders	Uhl-Bien, Marion, McKelvey	Uhl-Bien M., Marion R., & McKelvey B. (2007), *Complexity leadership theory: Shifting leadership from the industrial age to the knowledge era*, The Leadership Quarterly, 18(4), 298–318.
The impact of AI on decision effectiveness and the elimination of cognitive biases	Kahneman, Tversky	Kahneman D., & Tversky A. (2000), *Choices, values, and frames.* Cambridge University Press.
The importance of AI education and training for managers	Bughin, Hazan, Ramaswamy, Chui, Allas, Dahlström, Henke, Trench	Bughin J., Hazan E., Ramaswamy S., Chui M., Allas T., Dahlström P., Henke N., & Trench M. (2017). *Artificial intelligence: The next digital frontier?*, McKinsey Global Institute.
Scalability of AI implementations and the size of the organization	PwC	PwC. (2025), *AI Business Readiness Survey 2025*, PricewaterhouseCoopers.
Organizational maturity and competence gap among leaders	Deloitte	Deloitte (2023). *The State of AI in the Enterprise: 5th Edition*, Deloitte Insights.
No formal AI governance framework	McKinsey	McKinsey & Company (2023), *The State of AI in 2023*, McKinsey Global Institute.
Low level of employment of AI specialists (prompt engineers)	McKinsey	McKinsey & Company (2023), *The State of AI in 2023*, McKinsey Global Institute.
The impact of AI on increasing organizational productivity	PwC	PwC (2024), *AI and the Productivity Surge: A Sector Analysis*, PricewaterhouseCoopers.
Potential growth of global GDP thanks to AI	PwC	PwC (2025), *Global Artificial Intelligence Outlook 2025*, PricewaterhouseCoopers.
The role of generative AI in decision-making transformation	McKinsey	McKinsey & Company (2025), *The Economic Potential of Generative AI: The Next Productivity Frontier*, McKinsey Global Institute.

Source: own study.

SURVEY

This article presents a method of diagnostic survey, which allows for the analysis of opinions, attitudes and behaviors of a specific group of people. This method, as Sztompka points out, is particularly useful in social research, as it allows for the collection of empirical data on the attitudes and behaviors of individuals (Sztompka, 2002). In the context of this work, the diagnostic survey method allowed to obtain information on the impact of artificial intelligence on the managerial decision-making process and the psychological aspects of the adaptation of AI tools in strategic management.

The research used in this article uses a survey technique to obtain quantitative data on the attitudes and opinions of managers. Two detailed questionnaires were used: Survey 1 and Survey 2, which were addressed to managers operating in various sectors of the economy.

The surveys included questions about the use of artificial intelligence in decision-making processes, digital competences and psychological factors affecting the acceptance of AI.

The survey was conducted in December 2024 and covered 300 managers from all over Polish, representing both international corporations and medium and large Polish companies. The participants of the study were informed about its purpose and the rules of participation, and all of them were provided with full anonymity. The survey was conducted in accordance with the principles of research ethics, including respect for privacy and voluntary participation. The surveys were sent electronically, and the invitation to participate in the study included detailed information on its course and relevance for further research on AI in strategic management.

The process of making managerial decisions in the conditions of dynamic technological changes requires adaptation to new tools and methods of analysis. One of the key areas of this transformation is the use of artificial intelligence as a support for managers in strategic management. This study attempts to assess the impact of AI on managerial decision-making, taking into account the psychological and organizational aspects of the implementation of this technology. The conclusions from the empirical analysis allow for a better understanding of the mechanisms of AI implementation and to determine its effectiveness in strategic management.

Modern strategic management is based on the integration of modern information technologies that enable the collection, analysis and interpretation of large data sets. AI, thanks to its predictive and analytical capabilities, has become a tool supporting decision-making processes at the strategic level. The aim of this study was to determine the scope and effectiveness of the use of AI in managerial decision-making, as well as to identify barriers and factors determining the effectiveness of the implementation of this technology in organizations.

The basis of the analysis was empirical research, the results of which were confronted with previous findings of the literature. This made it possible to determine the degree of consistency of the results obtained with previous studies and to identify potential discrepancies. The analysis of the results also made it possible to formulate recommendations for business practice, indicating best practices and areas for further development.

Analysis of the results of the research confirmed that artificial intelligence plays an important role in strategic management, contributing to increasing the efficiency of decision-making processes and improving the accuracy of predictive analytics. At the same time, significant implementation barriers were revealed, including both technical and organizational ones, which may affect the pace of AI adoption in various sectors of the economy. The issues raised in this study allow for a better understanding of the mechanisms of AI technology adaptation in organizations and provide practical tips for managers and decision-makers responsible for strategic processes.

The use of the empirical approach in the analysis of the issues of AI implementation allows for a precise determination of the factors affecting the effectiveness of the implementation of this technology. The collected data indicates that organizations with a higher level of digital competence of the managerial staff show greater readiness to implement AI and achieve better results in the field of strategic management. In addition, a key factor determining the effectiveness of AI implementation is the level of trust in this technology and the degree of integration of AI tools with existing management systems.

The use of AI in the decision-making process allows for fast and efficient processing of large data sets, which enables better forecasting of strategic outcomes. The results of the research indicate that organizations using AI have seen a significant reduction in decision-making time and improved decision-making. The correlation between the use of AI and the effectiveness of strategic decisions was $r = 0.49$, indicating a strong relationship between the use of AI tools and the improvement of the quality of strategic management.

AI supports decision-making processes at various organizational levels, both in terms of operational analysis and long-term strategic planning. Organizations using AI-based predictive models get more precise recommendations on how to allocate resources, reduce risk, and adapt strategies to dynamic market changes.

Research shows that the effectiveness of the use of AI in the decision-making process is strongly dependent on the level of digital competence of the managerial staff. The correlation between the level of digital competence and the effectiveness of AI use was $r = 0.51$, which means that managers with higher levels of technological skills show greater effectiveness in using AI.

One of the key findings is the need to intensify AI training programs, especially for older generation managers who show greater resistance to new technologies. The introduction of training on data analysis and interpretation of AI-generated results can contribute to more informed and effective decision-making at the strategic level.

The results of the study confirmed that the use of AI in the decision-making process reduces the impact of cognitive biases and subjective assessments of managers. The reduction of the anchoring effect, confirmation bias, and availability heuristics was noticeable in organizations that used AI to a greater extent for strategic data analysis.

Research also indicates that AI allows for increased objectivity of decisions by eliminating human biases and emotional responses in crisis situations. However, it is worth noting that over-reliance on AI without taking into account the business context and managerial experience at the same time can lead to decisions that are suboptimal from a long-term perspective.

Despite the numerous benefits of implementing AI, research also points to significant limitations of this technology. The main problems associated with the use of AI in the decision-making process include:

- lack of full transparency of AI models – managers often do not have full insight into the mechanisms of algorithms, which makes it difficult to interpret the results;
- AI's failure to adapt to dynamic market changes – AI is based on historical data, which can lead to incorrect forecasts in the event of rapid changes in the business environment;
- the need for human oversight – while AI supports decision-making, it cannot completely replace the manager's role in interpreting results and taking into account strategic context.

Research has shown that one of the main challenges of AI implementation is resistance to change. High levels of uncertainty and fear of new technologies lead to reduced readiness of organizations to adapt to AI. The correlational results indicate that the level of resistance to AI is strongly related to the level of traditionalism in the organization ($r = 0.52$). This confirmed the hypothesis that organizations with a more conservative structure show greater difficulties in integrating AI into decision-making processes.

The analysis of the results of the study confirmed the hypothesis that the level of emotional intelligence of managers is an important factor influencing the acceptance of AI ($r = 0.46$). Managers with higher levels of emotional intelligence are more open to innovation and better able to adapt new technologies to decision-making processes. In turn, low levels of this trait lead to increased skepticism about AI and reduced readiness for its implementation.

The results indicate that organizations with more flexible and decentralized structures achieve higher efficiency in the implementation of AI (r = 0.50). The hypothesis that the organizational structure has a significant impact on the effectiveness of the implementation of new technologies was confirmed. Based on the literature analysis, it was confirmed that companies with rigid and hierarchical management models show much greater difficulties in adapting AI, suggesting the need for restructuring to increase innovation.

It has also been confirmed that organizations with a pro-innovative management culture implement AI faster and use its potential more effectively (r = 0.47). Companies whose managers promote experimentation, flexibility, and a culture of continuous learning are better able to adapt AI to their business strategies.

The results of the study showed that the level of digital competence of managers is crucial for the effectiveness of AI implementation (r = 0.51). Organizations that invest in the development of their employees' technological competencies achieve higher efficiency in integrating AI into decision-making processes. The high correlation between the level of digital competence and readiness for AI adaptation confirms the hypothesis that technology education is one of the key factors determining the success of AI implementation.

Analysis of the results of the study showed that managers using AI in strategic processes make more accurate and predictable decisions (correlation r = 0.49). The hypothesis that the use of AI increases the precision of analyses and minimizes the risk of decision-making errors resulting from limited availability of information or subjective assessments of managers has been confirmed.

The use of AI in the analysis of large data sets allows for effective forecasting of market changes, which significantly improves the organization's ability to adapt to a dynamically changing environment. The hypothesis that managers using AI for market analysis show higher resistance to change and better adapt strategies to new economic conditions has been confirmed.

The results of the research indicate that one of the main limitations of AI implementation is the lack of adequate digital competences of executives (correlation r = 0.51). The hypothesis that organizations with a higher level of digital competence of managers are more effective in implementing AI and achieving better results in strategic management has been confirmed.

Resistance to the implementation of AI in strategic management stems from uncertainty about the effectiveness of algorithms and potential changes in the employment structure. Research has shown that organizations with a strong innovation culture are more likely to adopt AI (correlation r = 0.47). The hypothesis that organizational flexibility and openness to change are key factors determining the success of AI implementation has been confirmed.

The analysis of the research results clearly indicates that AI is an effective tool supporting strategic management, contributing to improving the quality of decisions, optimizing operational processes and increasing the organization's resilience to market changes.

All hypotheses about the impact of AI on strategic management have been confirmed, which points to the growing role of this technology in shaping organizational strategies. At the same time, it was shown that the key challenges remain the digital competences of the management and the readiness of the organization to adapt to innovation.

Comparison of the results of own research with the existing literature allows for the assessment of their consistency and identification of areas in which the results obtained expand the current state of knowledge. The analysis carried out as part of this work clearly indicates that most of the results obtained confirm the previous scientific findings, at the same time indicating some new relationships that may form the basis for further research. Particular attention is paid to the analysis of the impact of AI on decision-making processes, psychological and organizational aspects of implementation, and the effectiveness of AI in strategic management. The hypothesis that AI increases the precision of decisions by eliminating cognitive biases and providing objective analysis of large data sets has been confirmed. In addition, our own research revealed a strong correlation between the level of digital competence of managers and the effectiveness of AI use ($r = 0.51$), which is consistent with the results of previous research.

At the same time, our own research has shown that the emotional intelligence of managers positively correlates with the level of AI acceptance ($r = 0.46$). This result complements previous research that suggested that openness to new technologies is related to leaders' interpersonal skills. In addition, the hypothesis that AI supports talent and recruitment management ($r = 0.47$) was confirmed, which is reflected in Brynjolfsson and McAfee's research suggesting that the use of AI in HR leads to greater efficiency of recruitment processes[32].

The analysis of the results of the research allowed for the identification of new relationships that have not been widely discussed in the previous literature. An example is the relationship between organizational structure and the effectiveness of AI implementation. The author's own study found that organizations with a matrix structure perform better in AI implementation compared to companies with a functional structure ($r = 0.50$), suggesting that managers can work with AI more effectively in flexible management models.

Based on the research conducted, a number of recommendations were formulated to facilitate the implementation of artificial intelligence (AI) in decision-making processes and strategic management by managers.

[32] E. Brynjolfsson, A. McAfee, *Machine…*, p. 115-125.

Managers should develop a coherent AI implementation strategy that takes into account business goals and key areas of activity where AI can bring the greatest benefits. Implementation planning should include an analysis of the organization's needs, identification of available technologies, and evaluation of the resources necessary for effective implementation.

Resistance to change is one of the main implementation challenges (correlation r = 0.52). To minimize negative attitudes towards AI, managers should run information campaigns highlighting the benefits of using it. Transparency of processes and employee involvement in decision-making regarding the implementation of AI increases the level of acceptance of new technologies.

Companies should implement management strategies that foster experimentation and openness to innovation. Research has shown that managers operating in organizations with a strong innovation culture adapt new technologies faster (correlation r = 0.47). It is recommended to promote an approach based on learning from errors and testing different AI implementation models. A low level of digital competence is a significant barrier to the effective use of AI (correlation r = 0.51). It is recommended to implement training programs for managers that focus on data interpretation, predictive models, and strategies for integrating AI into decision-making processes.

Although AI supports decision-making, it cannot completely replace the intuition and experience of managers. It is recommended to develop the ability to combine AI-generated results with practical knowledge to optimize the decision-making process.

The results of the study showed that managers who use AI in strategic data analysis achieve better operational results (correlation r = 0.50). Companies should implement systems that enable effective collection, processing and interpretation of data, ensuring its high quality and availability for management.

Ultimately, artificial intelligence should be treated as a tool that supports, not replaces, humans in the decision-making process. It is recommended to develop procedures that allow for ongoing verification of the results of analyses generated by AI and their interpretation in a strategic context.

The results of the study indicated that the level of digital competence of the management has a significant impact on the effectiveness of AI implementation (correlation r = 0.51). However, the required digital competencies for managers can change dynamically depending on the development of AI technology. Therefore, future research should focus on:

- identifying specific digital skills that are crucial for the successful implementation of AI in strategic management;
- analysis of training programs for managers in the field of AI and their effectiveness in improving digital competences;
- study of differences in the level of AI acceptance among different age groups of management.

The dynamic development of AI brings ethical challenges that are still not fully understood. Future research should focus on:

- studying the impact of AI on managerial responsibility and decision-making ethics;
- analysis of potential threats resulting from the automation of strategic processes, such as reduced transparency of decisions or excessive reliance on algorithms;
- developing rules and legal regulations on accountability for decisions made by AI in organizations.

Further research on the application of AI in strategic management should focus on the development of digital competences of managers, analysis of the impact of AI on organizational innovation, changes in management structures and ethical and economic aspects of its implementation. The results of the research indicate the significant importance of AI for organizational efficiency, but the dynamic development of this technology requires continuous analysis and adaptation of implementation strategies to the changing business environment. The use of AI in strategic management will continue to evolve, bringing new opportunities but also challenges for organizations. The dynamic development of AI technology requires managers to constantly improve their analytical and technological skills. This paper provided substantial evidence that AI is a valuable tool to support business decision-making. However, its effectiveness depends on the skilful management of the implementation process and appropriate organizational preparation. I hope that further development of artificial intelligence will become a significant facilitation for managers running businesses, provided that they master the effective use of AI and are able to adapt its use to the specifics of their organizations.

SUMMARY AND CONCLUSION

As the above analysis shows, the effective use of AI tools in the managerial decision-making process does not depend only on the available technologies, but above all on the organization's ability to adapt and manage change. The psychological preparation of the staff, the flexibility of organizational structures, and the competencies of leaders are of key importance[33] (Bazerman and Moore, 2019). An integrated approach that combines technologies, people and organizational culture is the basis for building a competitive advantage in the conditions of digital transformation. AI can effectively support managerial decisions, but only if it is properly embedded in the structure and management philosophy of modern organizations.

[33] M.H. Bazerman, D.A. Moore, *Judgment in managerial decision making* (8th ed.), Wiley 2019.

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Katarzyna Karpińska *– psycholog, dyrektor ds. sprzedaży, doktorantka zajmująca się badaniem wykorzystania sztucznej inteligencji w procesach podejmowania decyzji biznesowych oraz wpływu cech osobowości liderów na te procesy. Od wielu lat zajmuje stanowiska kierownicze w międzynarodowych korporacjach, gdzie z powodzeniem łączy wiedzę psycho-*

logiczną z praktyką zarządzania dużymi zespołami sprzedażowymi. Specjalizuje się w budowaniu strategii rozwoju, zarządzaniu relacjami z kluczowymi klientami oraz rozwijaniu kompetencji przywódczych. Biegle włada językiem niemieckim i angielskim, co pozwala jej swobodnie poruszać się w globalnym środowisku biznesowym. Jej badania koncentrują się na tym, w jaki sposób sztuczna inteligencja może wspierać liderów w podejmowaniu trafnych decyzji strategicznych oraz jak indywidualne cechy charakteru wpływają na skuteczność tego procesu. W swojej pracy łączy analityczne podejście i zrozumienie mechanizmów ludzkich zachowań z doświadczeniem korporacyjnym, pokazując, jak świadome przywództwo i nowoczesne technologie mogą wspólnie kształtować przyszłość biznesu. Prywatnie pasjonuje się grą na fortepianie i podróżami, uwielbia spędzać czas z córką, nagrywać podcasty psychologiczne. Angażuje się w edukację dzieci i młodzieży w zakresie świadomego i bezpiecznego korzystania z narzędzi sztucznej inteligencji – tak, aby służyła ona rozwojowi, a nie szkodziła.

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HUMANITAS Zarządzanie 2025 (3), s. 115-130

Article Type: research paper, case study

Data wpływu/Received: 3.07.2025
Data recenzji/Accepted: 5.08.2025/20.08.2025
Data publikacji/Published: 30.09.2025

Source of funding for publication: subsidy for AGH University of Science and Technology for the maintenance and development of research potential; subsidy number: 16/16.200.396

DOI: 10.5604/01.3001.0055.2899

Authors' Contribution:
(A) Study Design (projekt badania)
(B) Data Collection (zbieranie danych)
(C) Statistical Analysis (analiza statystyczna)
(D) Data Interpretation (interpretacja danych)
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KRAKDENT INTERNATIONAL DENTAL FAIRS AS A BUSINESS ECOSYSTEM. CASE STUDY

MIĘDZYNARODOWE TARGI STOMATOLOGICZNE KRAKDENT JAKO EKOSYSTEM BIZNESOWY. STUDIUM PRZYPADKU

Abstract: A modern business ecosystem is a dynamic and flexible system that constitutes a network of various organisations involved in delivering a product or service. It is characterised by cooperation and competition, together with the use of multiple procedures, tools and technologies, with a focus on development and innovation. An example of such an ecosystem is trade fairs, which bring together stakeholders in a given industry. The basic activities of exhibitors are competitive in nature. At the same time, the specificity of today's business reality and concern for the development of the entire industry mean that cooperation and competition are integrated in these events.

The aim of this paper is to identify the distinctive features of the Krakdent International Dental Fair that allow it to be considered a practical example of a modern business ecosystem.

The following methods were used to fully achieve the set objective: (1) critical analysis of literature and source data, (2) case study analysis – the KRAKDENT brand, (3) participant observation and interviews with event participants, (4) deductive reasoning methods – a systematic thought process was adopted, based on the assumption that modern, developed trade fairs can be considered examples of business ecosystems. There is a lack of comprehensive scientific studies on this subject. This paper complements the existing scientific literature.
The Krakdent dental fairs are an example of a dynamically developing trade fair business ecosystem. For over 30 years, this event has served as a meeting for exhibitors and customers, offering opportunities to build relationships and foster cooperation. The fair is accompanied by the Dental Spaghetti scientific congress, which is a platform for exchanging knowledge about the latest technologies emerging in the dental industry. Exhibitors are aware that the fairs is a fruitful opportunity to build relationships and cooperate with educated fair visitors.

Keywords: trade fairs, trade shows, business ecosystem, KRAKDENT® International Dental Fairs, case study

Streszczenie: Nowoczesny ekosystem biznesowy to dynamiczny i elastyczny model, który obejmuje sieć różnych organizacji, zaangażowanych w dostarczanie produktu lub usługi. Charakteryzuje się on wzajemną współpracą i współzawodnictwem, a także wykorzystaniem różnych procedur, narzędzi i technologii, rozwoju i generowania innowacji. Przykładem takiego ekosystemu są wydarzenia targowe, które łączą interesariuszy danej branży. Podstawowe aktywności wystawców mają charakter konkurencyjny. Jednocześnie specyfika dzisiejszej rzeczywistości biznesowej i troska o rozwój całej branży sprawia, że współpraca i koopetycja są działaniami realizowanymi w czasie tych wydarzeń.
Celem artykułu jest identyfikacja elementów charakterystyki Międzynarodowych Targów Stomatologicznych Krakdent, które pozwalają uznać je za praktyczny przykład nowoczesnego ekosystemu biznesowego.
Dla pełnej realizacji założonego celu zastosowano następujące metody: (1) metodę analizy krytycznej literatury i danych źródłowych, (2) analizę studium przypadku – marki Krakdent, (3) obserwacje uczestniczące i wywiady z uczestnikami wydarzenia, (4) metodę wnioskowania dedukcyjnego – przyjęto usystematyzowany proces myślowy, polegający na przyjęciu założenia, że współczesne rozwinięte targi gospodarcze mogą być uznane za przykłady ekosystemów biznesowych. Brakuje kompleksowych opracowań naukowych na ten temat. Przedstawiony artykuł stanowi uzupełnienie istniejącego piśmiennictwa naukowego. Targi stomatologiczne Krakdent to przykład dynamicznie się rozwijającego targowego ekosystemu biznesowego. Wydarzenie to od ponad 30 lat jest miejscem spotkań wystawców z klientami i daje możliwość budowania relacji i podejmowania współpracy. Targom towarzyszy kongres naukowy Dental Spaghetti, który jest miejscem wymiany wiedzy na temat nowoczesnych technologii pojawiających się w branży stomatologicznej. Wystawcy mają świadomość, że budowanie relacji i współpraca z wyedukowanymi gośćmi targowymi są bardziej owocne.

Słowa kluczowe: targi gospodarcze, wydarzenia targowe, ekosystemy biznesowe, Międzynarodowe Targi Stomatologiczne Krakdent, studium przypadku

INTRODUCTION

Trade fairs are evolving as important communication tools which allow new aims to be achieved[1]. The sales function, which was previously dominant, has lost significance in favour of communication functions[2]. Trade fairs are an opportunity to observe the development of an industry, to participate in them, to understand the direction (and level) of development of the companies represented, and the expectations and reactions of stakeholders to one's offer and other offers in the industry[3]. Increasingly, both exhibitors and trade fair visitors see the trade fairs as a venue for building experiences with brands, exchanging knowledge and simply learning[4]. This is particularly evident in technologically advanced and fast-growing industries[5] , such as the dental industry[6].

Ubiquitous technological progress means that today's dentists who want to offer competitive services must keep up with emerging innovations. To a large extent modern dentistry utilises the achievements of computer science (e.g. 3D printing, electronic documentation and design of dental services, both therapeutic and aesthetic), medicine (new methods of treatment), chemistry (new materials used for filling and reconstruction) and mechanical engineering (dental tools)[7].

This paper identifies distinctive features of the Krakdent International Dental

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Fair that allow it to be considered a practical example of a modern business ecosystem. It is based on reviews othe state of knowledge of business ecosystems and a case study of the Krakdent brand, which is supplemented by research (interviews and participant observations) conducted among participants at the 2025 edition of the event (10-12 April 2025).

LITERATURE REVIEW ON BUSINESS ECOSYSTEMS

A rapid convergence of technology combined with advancing globalisation poses a challenge for contemporary market participants[8]. Competition is increasingly between business ecosystems rather than between individual companies[9]. Therefore, it is now believed that a company should be seen "not as a member of a single industry, but as part of a business ecosystem that cuts across different industries"[10]. The essence of business ecosystems is a shared pursuit of development with jointly created innovations. Business ecosystems connect different entities with a flow of knowledge and shared value creation processes. Business ecosystems develop through self-organisation, emergence and co-evolution[11]. The literature also refers to the concept of business networks[12], i.e. systems in which companies develop individual relationships with each other and with the network as a whole. Customers interact simultaneously with a company and with other customers to co-create value in the ecosystem[13]. In ecosystems, companies carefully nurture relationships that are beneficial to themselves and the entire business network[14]. The life cycle of a business ecosystem comprises four stages: birth, expansion, leadership and self-renewal or decline[15].

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Four critical processes to design an effective business ecosystem are considered to be continual engagement in building customer relationships, sharing values based on a holistic approach that benefits everyone, developing organisational entrepreneurship and continual intelligent learning[16]. The direction of development of innovation is determined by direct contact with customers[17]. Observing customer behaviour and researching their expectations is a source of ideas that can form the basis for building a new business offering[18]. It is assumed that the development of the ecosystem aims to engage customers and make the ecosystem a central part of their lives[19]. Direct and constant contact between ecosystem members eliminates bureaucracy[20]. The distribution of value in the ecosystem is based on a holistic win-win approach and it is only possible with complete mutual trust between partners[21]. At trade fairs, the entity responsible for building customer engagement and implementing value distribution based on a win-win approach is the organiser or operator of the fairs[22], which, while caring for the development of the entire event, equally cares about meeting the needs of all the exhibitors and, indirectly, other stakeholders in the event[23].

An ecosystem can be based on an open dynamic contract structure that facilitates value co-creation and win-win situations[24]. The aim is to integrate different companies in a way that is faster and more flexible than traditional methods[25]. The

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source of inspiration are the common aims of the participants, which are related to their specific needs[26]. Business ecosystems are viewed as a means of support in navigating industry uncertainty[27].

RESEARCH METHODOLOGY

In order to analyse the functioning of the KRAKDENT trade fair more thoroughly and identify the features that allow it to be considered a practical example of a modern business ecosystem, a triangulation of methods was performed. To obtain a more comprehensive and reliable analysis of the functioning of trade fairs, and to verify and reinforce the research results, the following research methods were used: a case study[28] of the Krakdent brand (and Dental Spagettii) was carried out based on materials obtained from the event organiser – Targi w Krakowie – and an analysis of available secondary sources (like media reports, social media activities of stakeholders)[29];

— participatory observations (while building the stands, during the event itself and after it has ended) by the author;

— interviews with event participants, both exhibitors and visitors (held during the three days of the fair and on the preceding day, when exhibitors were preparing their stands).

The research aimed to obtain an in-depth image of the Krakdent dental fairs and to analyse its functioning as a business ecosystem. Analysis of exhibitor-visitor relationships provided insights into the level of achievement of the fairs's objectives for these groups. On the other hand, the relationships between exhibitors, fairs organisers and accompanying events showed the level of consolidation of the industry represented at the fairs and the importance of the event for the development of the sector. The intensity of these contacts will encourage exhibitors to learn from their competitors' experiences. Accompanying events, organised by both the trade

preneurial re-entry after a business failure, "European Business Review" 2021, Vol. 33, No. 6, pp. 975–998, https://doi.org/10.1108/EBR-09-2020-0222.

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[29] B. Glinka, & W. Czakon, *Podstawy badań jakościowych*, Polskie Wydawnictwo Ekonomiczne, Warszawa 2021, pp. 53-62.

fairs organiser and individual exhibitors, provided a valuable space for building such relationships and developing trade fairs as a business ecosystem. Krakdent is an event accompanied by a scientific conference for dental industry specialists entitled Dental Spaghetti. Exhibitors organise training courses and workshops at their stands and in additional rented spaces.

The interviews were conducted during the fairs by the author with participants who gave their verbal consent to participate in the interview (in addition, some of the statements quoted in the article come from materials prepared by Targi w Krakowie). The interviews were partially categorised and were not recorded. A casual conversation, rather than a formal list of questions, was intended to foster a deeper relationship with the respondents and increase their engagement in answering the questions. Approximately 30 such interviews were conducted during the three days of the fairs.

RESEARCH RESULTS AND DISCUSSION

The Krakdent Dental Fairs has been organised in Krakow since 1993. Initially, the event was called Dentamed, and Sławomir Gąsiorowski coordinated it. In 1997, the event was renamed Krakdent and its organiser became Targi w Krakowie sp. z o.o. with Beata Simon as its manager. The participants are interested in broadly understood dental papers and tools, and also in pharmaceutical products and related industry publications. The exhibitors are manufacturers and sellers of dental products, service providers in the sector and training companies. The primary visitors are owners and employees of dental clinics and practices, together with sales representatives in the industry, students and pupils preparing for careers in the dental field. Over the years, the event has undergone significant development. Its first edition in 1993 featured 39 exhibitors. By 2007 the number had increased to 258, and by 2016 it had risen to 404. In 1993 approximately 700 people attended the fairs, whereas in 2016 it drew 14,823 visitors.

Table 1. Selected statistical data on participation in the Krakdent trade fairs
Tabela 1. Wybrane dane statystyczne dotyczące udziału w targach Krakdent

Year	Number of exhibitors	Net area (m^2)	Number of visitors
KRAKDENT 2014 – Centralna Street	313	4058	12223
KRAKDENT 2015 – EXPO KRAKOW	336	5214	13762
KRAKDENT 2016 – EXPO KRAKOW	404	5822	14823
KRAKDENT 2017 – EXPO KRAKOW	411	5920	15554
KRAKDENT 2018 – EXPO KRAKOW	448	6020	16176
KRAKDENT 2019 – EXPO KRAKOW	452	6050	15367
2020 – pandemic	-	-	-
2021 – pandemic	-	-	-
KRAKDENT 2022 – EXPO KRAKOW	312	4859	8688
KRAKDENT 2023 – EXPO KRAKOW	323	4723	10303
KRAKDENT 2024 – EXPO KRAKOW	341	5135	10811
KRAKDENT 2025 – EXPO KRAKOW	355	5372	11904

Source: Targi w Krakowie sp. z o. o. (interviews and internal company materials).

The history of KRAKDENT spans over 30 years of development, which is why, due to space limitations, this article presents only selected statistics on its participants. An increase in the size of the fairs in 2014 was a result of expansion of Targi w Krakowie sp. z o.o. ‘s exhibition base. At that time, the company relocated to a new location which provided significantly more space for event participants.

This dynamic growth led to 452 exhibitors and 15,367 visitors participating in the event in 2019. The traditional exhibition stands were accompanied by presentations and training sessions held simultaneously in seven lecture halls and five workshop rooms for the entire duration of the fairs (three days).

Krakdent visitors spend their time very intensively participating in these training sessions, lectures and workshops. The event is the third largest in Poland[30].

The fair organisers not only enable exhibitors to make additional presentations and run workshops but they also invite specialists to give lectures and organise various types of dental training courses.

Since 2001, Krakdent has been accompanied (outside the fairsground) by the Dental Spaghetti Congress (together with the Dental Spaghetti Crazy Party), which also provides an opportunity to learn about new products available at the fairs and discover new possibilities in the field of dental services. The fair’s organiser runs the event. In 2025, as part of the 22nd International Dental Spaghetti Congress, lectures

[30] https://superexpo.com/pl/targi/54053/krakdent-2019/wystawca; accessed 12.01.2025.

were given by some of the best dentists in the world, including excellent speakers from Style Italiano. Presentations were given by, among others, Dr Giuseppe Chiodera, Dr Salvatore Chinnici, Prof. Camillo D'Arcangelo, Natalia Jakubowicz, DDS, Dr Christian Leonhardt, Dr Paulo Monteiro, Dr Nazariy Mykhaylyuk, Dr Marco Nicastro, Prof. Angelo Putignano, MD, DDS and Prof. Roberto Sorrentino[31].

The COVID-19 pandemic had a negative impact on the development of Krakdent and the entire industry, as offline trade fairs were not organised in this period. Following the pandemic, Krakdent promptly resumed its place on the industry's calendar of events. Every year, it attracts an increasing number of exhibitors and visitors. The statistics are not yet at the pre-pandemic level, but growth dynamics are visible. In 2025, 355 exhibitors participated in Krakdent, which occupied an area of 5,372 m^2, and 11,904 trade fair guests visited the event. As the economic and political situation is currently not very stable, it does not favour the intensive involvement of companies in promotional activities.

Krakdent is also a very socially engaged event (thanks to which it enjoys greater trust among exhibitors and visitors). As part of these fairs, projects are implemented, including:

– 'Dentist in Africa' trips by Polish dentists to Africa as volunteers;

– #JestemCzujnyOnkologicznie (I am cancer-aware), promoting activities to increase detection of oral cancer;

– Dentopomoc, a campaign supporting oral hygiene in orphanages and foster families[32].

– In each edition of Krakdent, the organisers award Medals of Highest Quality in five categories. In 2025, the committee awarded the following Krakdent 2025 Medals of Highest Quality:

– Three awards were granted in the category' Equipment, diagnostic and treatment devices, and dental instruments': to Nevadent for the Eighteeth MotorSurg implant physiodispenser, to Poldent for the Endostar EP Easy Path and to Pro-Optic for the Flexion twin microscope.

– In the category 'Auxiliary materials, preparations and preventive devices' the award went to Pierre Fabre Oral Care for Elgydium Anti-Caries Toothpaste with Fluorinol Protect+ Complex.

– In the category 'Publications, education, software for dentistry' two awards were granted: to Mariusz Oboda Consulting & Training Group for the training project 'MEMS – Multi-Level Engagement and Motivation Strategy' and to Med Tour Press International for 'The History of Polish University Dentistry 1799-2014. The Importance of the Krakow Centre' by Stanisław Majewski[33].

[31] https://krakdent.pl/aktualnosci/podsumowanie-31-targow-krakdent-w-krakowie---najwiekszego-wydarzenia-dla-stomatologow-w-polsce,3480; accessed 12.01.2025.
[32] https://www.targi.krakow.pl/pl/targi-zaangazowane-spolecznie.html; accessed 12.01.2025.
[33] https://dentonet.pl/medale-targow-krakdent-2025-wreczone/#gref; accessed 12.01.2025.

No awards were given in the categories' Equipment, apparatus and instruments for dental technology', 'Dental and clinical materials' and 'Materials used (or applied) in dental technology workshops and laboratories.'

This event is the largest trade fairs in Poland for the dental industry. In the interviews exhibitors and visitors emphasised that it is crucial for them to meet industry representatives at least once a year. They also stated that Krakdent surprises them with new elements every year. Similar comments appear in reports published by the organisers and in social media posts by individual exhibitors and visitors.

Below are selected examples of comments and opinions from participants regarding key aspects of these events:

– Urszula Chudak from Hol-Dental Depot: "One of the largest and most important events in the industry (...) direct contact with customers cannot be overestimated (...) Such meetings allow us to understand customer needs better and build trust, which is the foundation of lasting relationships".

– Małgorzata Nowak-Niedźwiecka from Poldent®: "It is important to meet our customers at least once a year to show them what we have to offer".

– Klaudia Krzywaźnia, Aquatest Research Laboratory: "We were positively surprised by the large number of people we were able to talk to".

– Anna Babczyńska-Staszewska, MD, PhD, IG from @anna.the.dentist: "It's amazing how this event brings people together".

– Katarzyna Szymańska, IG from @higienistkaperfekcjonistka: "I'm coming back from the fairs with a whole bag of tools. Lots of interesting things, equipment, materials and above all wonderful encounters with great people I met on my way".

– Beata Peterson, President of the Main Board of the Polish Society of Dental Technicians: "An event of exceptional importance and impact (...) a considerable number of visitors (...) huge interest in the educational part. All workshops and training sessions were booked up in no time, which demonstrates the high demand for development and practical knowledge"[34].

The statements of the other interviewees contained unequivocally positive opinions about KRAKDENT. They emphasised the large representation of the dental industry at the event, the opportunity to build relationships with stakeholders based on trade fair contacts (during and after the event) and to gain knowledge during the Dental Spaghetti Congress. Participants appreciated the large number of events accompanying the fair, the opportunity to win fair prizes, and the intensive promotion of the event, carried out by both the organisers and individual participants.When analysing the run of Krakdent and opinions about it, it can be seen that it integrates the dental industry.

[34] Own research and internal Targi w Krakowie materials.

Thanks to this event, there are additional interactions between participants (both in the real world and online, on social media). At Krakdent, participants build business and social relationships that create opportunities for cooperation in the innovation sector, even though most of them compete with each other on a daily basis. Observing the activities and offerings of competitors has a profoundly inspiring effect on participants. It allows them to verify their plans and assess the possibilities of their profitable implementation, and to draw on ideas that competitors have already implemented.

Fair participants can compare the products and technologies they use with the latest solutions presented at the Dental Spaghetti dental congress, medical courses and numerous fair workshops. These meetings are a source of new ideas and inspire new collaborations to implement the innovations learned about. They ensure that the integration of fair participants lasts much longer than just the three days of the fair. The fair catalogue is a reliable directory for those seeking professional relationships in the dental industry.

An essential element of the Krakdent fairs is its organiser, Targi w Krakowie. Its activities in developing the event serve to consolidate and develop the entire sector. The care taken to ensure that the latest solutions in the dental industry are showcased during the fairs, along with opportunities to learn about them in practice, strengthens interest in the sector in participating in this event.The quality of the KRAKDENT® International Dental Fairs is confirmed by the awards it has received from the trade fairs community. Krakdent won the prestigious 2025 UFI Marketing Award, granted by the Global Association of the Exhibition Industry (UFI). The jury recognised the 2024 edition campaign as the most effective and best suited to the young generation of fair participants. This year's edition of the competition was held under the slogan 'NextGenConnect: Marketing strategies engaging younger generations'. Its aim was to highlight innovative promotional activities that effectively attract, engage and inspire representatives of the Millennial, Gen Z and Gen Alpha generations to participate in trade fair events. Another important aspect was to present tools that will help maintain the importance of trade fairs in the future.

The 2024 event (the 30th edition of Krakdent) also won an award at the MP Power Awards® Gala – the most critical competition in the MICE industry in Poland – in the trade fairs category.

Awards granted by institutions evaluating the functioning of the meetings industry show that Krakdent is an important element of the trade fair market. Four significant trade fairs for the dental industry are planned in Poland in 2025, but Krakdent has the longest history among them, hence its strong position in this market and its ability to attract representatives of this industry.

Analysing Krakdent activities and the comments by its participants, it can be concluded that this Krakow dental fair has the characteristics of a business ecosystem.

Krakdent is a network of interconnected and interdependent organisations, such as exhibitors, visitors, suppliers, distributors, customers, organisers and other partners who cooperate (and compete) to create shared value for customers, much like organisms in a biosystem. The shared value is the quality of dental services and patient satisfaction. Krakdent generates a dynamic, evolving relationship in which individual participants influence and are shaped by others, requiring them to be flexible and adaptable. Better-educated patients are more conscious in their choice of dental service providers and are able to appreciate the innovations included in a given offer. This increases the sense of security for entrepreneurs implementing innovations.

CONCLUSIONS

Thanks to its presence since 1993, the Krakow Dental Fairs Krakdent has a significant impact on the functioning of the dental industry in the region. It is a venue where representatives from the dental sector gather and establish connections. Every year, many foreign companies participate, including ones from Belgium, China, the Czech Republic, Denmark, Finland, Ireland, Japan, South Korea, Germany, Portugal, Romania, Slovakia, Slovenia, Switzerland, Italy and the USA. In the Dental Spaghetti conference, lectures, workshops and press conferences, participants have opportunities to build and develop relationships. As the fair participants interviewed indicated, contact at the fairs is typically the beginning of a multifaceted relationship that is then sustained throughout the year. This is naturally strengthened by meeting again at the next edition. Participants emphasised that while they appreciated online industry contacts, they must meet offline from time to time.

With its rich educational offer and numerous accompanying events, Krakdent can be considered an example of a business ecosystem comprising a network of interconnected companies, individuals and organisations that jointly provide specific products or services, competing and cooperating. Their meetings serve as opportunities to exchange information and strengthen their activities, inspiring networking and cooperation beyond the fairs. Participation in the event brings significant added value to the development of the entire industry.

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HUMANITAS Zarządzanie 2025 (3), s. 131-145

Original Article

Received: 10.07.2025
Accepted: 20.08.2025/25.08.2025
Published: 30.09.2025

Sources of funding for publications: *Humanitas University in Sosnowiec*

DOI: 10.5604/01.3001.0055.2900

Authors' Contribution:
(A) Study Design (projekt badania)
(B) Data Collection (zbieranie danych)
(C) Statistical Analysis (analiza statystyczna)
(D) Data Interpretation (interpretacja danych)
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FAMILY BUSINESSES IN CLUSTER STRUCTURES

FIRMY RODZINNE W STRUKTURACH KLASTROWYCH

Abstract: The purpose of this article is to identify and assessment of conditions that determine the readiness and effectiveness of family businesses' cooperation within cluster structures. Based on a 2023 study involving 254 family-owned SMEs in Poland, the paper evaluates the degree of openness to network collaboration, highlighting both facilitating factors (e.g., professional management, prior project experience, organizational innovativeness) and limiting barriers (e.g., lack of trust, fear of losing control, low awareness of potential benefits). The findings indicate that the majority of companies at least consider participating in clusters, although actual engagement requires institutional, educational, and advisory support. Clustering is presented not only as an economic structure but also as a mechanism of social learning and sustainable development for family enterprises.

Keywords: family businesses, clusters, network cooperation

Streszczenie: Celem niniejszego artykułu jest identyfikacja i ocena warunków determinujących gotowość oraz skuteczność współpracy firm rodzinnych w strukturach klastrowych. W oparciu o badanie przeprowadzone w 2023 roku na próbie 254 rodzinnych MŚP w Polsce opracowanie analizuje stopień otwartości na współpracę sieciową, wskazując zarówno czynniki sprzyjające (m.in. profesjonalne zarządzanie, wcześniejsze doświadczenia projektowe, innowacyjność organizacyjna), jak i bariery ograniczające (m.in. brak zaufania, obawy przed utratą kontroli, niska świadomość potencjalnych korzyści). Wyniki wskazują, że większość przedsiębiorstw przynajmniej rozważa udział w klastrach, jednak rzeczywiste zaangażowanie wymaga wsparcia instytucjonalnego, edukacyjnego i doradczego. Klastry przedstawione są nie tylko jako struktura gospodarcza, lecz także jako mechanizm uczenia się społecznego i zrównoważonego rozwoju przedsiębiorstw rodzinnych.

Słowa kluczowe: firmy rodzinne, klastry, współpraca sieciowa

INTRODUCTION

Family businesses represent a cornerstone of many national economies, with a particularly prominent role in Poland. These enterprises face a range of challenges, including succession, the need for innovation, business scaling, and competition from larger market players. Clustering – understood as collaboration among enterprises, business support institutions, and academic units within geographically and sectorally defined networks – can serve as an effective response to these challenges.

Due to their strong grounding in family values and local communities, family businesses possess an inherent potential to establish enduring network relationships. Clusters provide them with opportunities for joint activities in the areas of innovation, marketing, procurement, technological development, and the strengthening of market position.

The objective of this article is to identify and analyze, in light of empirical research, the opportunities, conditions, and benefits associated with the participation of family businesses in cluster structures. Special emphasis is placed on the factors that facilitate or hinder network-based collaboration, as well as on assessing the capacity of family firms to effectively operate within cluster frameworks.

To this end, the author seeks to understand the specific characteristics of family businesses in the context of inter-organizational cooperation and to evaluate their organizational readiness for participation in clusters.

FAMILY BUSINESSES IN THE CONTEXT OF CLUSTERING

Family businesses are defined as enterprises in which ownership and control are held by a single family, with management also exercised by family members, typically with the intention of intergenerational succession[1]. In Poland, family enterprises constitute a key segment of the national economy—with their share of the total number of businesses ranging, depending on the definition adopted, from approximately

[1] J.J. Chrisman, J.H. Chua, P. Sharma, *Trends and Directions in the Development of a Strategic Management Theory of the Family Firm*, "Entrepreneurship Theory and Practice" 2005, 29(5), 555–576.

60% to as much as 90%.[2] In 2023, Poland had over 4.5 million registered business entities, of which around 830,000 were family businesses.[3] These firms form a significant component of the SME sector, highlighting their dominant role in the structure of small and medium-sized enterprises. From a macroeconomic perspective, they are responsible for approximately 20% of national GDP, which makes them a critical factor in economic stability and regional development[4].

Despite their role as stabilizers of local economies, family businesses often face structural limitations: limited scale of operations, relatively low levels of innovation, difficulties in accessing external capital, and barriers to internationalization[5]. In response to these challenges, increasing attention is being paid to network-based strategies – such as clustering – as a means of supporting the development and long-term sustainability of family businesses[6]. A cluster is understood as a geographically concentrated group of interconnected enterprises, support institutions, research and development organizations, and educational entities that simultaneously cooperate and compete. It constitutes a structure that enables synergy effects, joint development, and knowledge exchange[7]. For family businesses—which are by nature more deeply rooted in local communities and characterized by a high level of internal trust—participation in a cluster can represent a natural extension of their existing development strategy[8].

The participation of family firms in clusters can contribute to:

- Enhancing innovativeness, through interaction with R&D institutions and knowledge transfer[9];
- Cost optimization, e.g., through joint purchasing, resource sharing, and infrastructure use;
- Improved competitive positioning, due to economies of scale and joint promotion of regional branding[10];

[2] A. Lewandowska, E. Więcek-Janka, A. Hadryś-Nowak, *Niewykorzystany potencjał „czynnika rodzinności" w budowaniu marki – główne wnioski z ogólnokrajowego badania statystycznego firm rodzinnych w Polsce*, „Przedsiębiorczość i Zarządzanie. Wydawnictwo Społecznej Akademii Nauk" 2017, 18(6)/2, p. 437-449.

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- Professionalization of management, which is particularly important in the context of succession and intergenerational planning[11].

On the other hand, it should be noted that family businesses may exhibit strategic conservatism and caution toward external entities, which may limit their openness to networked collaboration. Distrust of non-family partners and strong adherence to traditional management styles often pose barriers to entry into cluster structures[12]. Therefore, creating trust-based environments and fostering long-term cooperation adapted to the specific nature of family firms is essential.

The literature also indicates that family businesses tend to achieve better results in so-called "soft clusters" – those focused on knowledge transfer, educational collaboration, or joint marketing initiatives – than in clusters requiring significant capital investment or advanced technological coordination[13].

Models of collaboration involving family businesses in clusters must therefore take into account their cultural specificity, family-based values, and need for autonomy. In this context, the role of network leaders and cluster-supporting institutions (e.g., regional development agencies) is essential, as they can serve as mediators, build trust, and provide competence-based support.

In light of the above, clustering should be viewed not only as an organizational structure but also as a mechanism for social learning, adaptation, and the development of sustainable competitive advantage in family enterprises[14].

STUDY OF FAMILY BUSINESSES IN THE CONTEXT OF CLUSTERING – RESULTS

The study was conducted as part of a scientific project carried out in 2023. A quantitative approach was employed (survey method), and the sample consisted of 254 family-owned enterprises, primarily operating within the SME sector in the Silesian, Opole, Lower Silesian, and Lesser Poland Voivodeships. The study of family businesses included an examination of the potential for cluster collaboration, including geographic and economic opportunities, as well as social and psychological potential. Geographic potential was determined by the level of concentration, economic potential by

clusters: When distance and embeddedness are not enough to explain innovation, "Journal of Economic Geography" 2009, 9(2), 263–283.

[11] T.M. Zellweger, K.A. Eddleston, F.W. Kellermanns, *Exploring the Concept of Familiness: Introducing Family Firm Identity*, "Journal of Family Enterprise Strategy" 2010 1, 54-63.

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specialization, social potential by traditions and customs, and psychological potential by readiness for collaboration. Quantitative and qualitative indicators were used for the assessment, subjected to statistical and logical interpretation.

The study employed a diagnostic survey method based on the selection of a representative sample from the national population using current sampling methodologies.

The survey was conducted from May 22, 2023, to June 30, 2023. The pilot survey began on May 22, 2023, and the actual measurement began on May 25, 2023.

The pilot study began on May 22, 2023, and its goal was to verify the prepared research tool in terms of its clarity and comprehensibility of questions and response options for respondents. The results of the pilot study were used to develop the final version of the survey questionnaire.

The actual survey began on May 25, 2023. The initial assumption was to conduct the entire study using CATI technology. SURNEO software was used.

The sampling database required the involvement of external sources. Combining profiled databases ensured efficient work and proper implementation of the study (including sampling).

The sample size (N) resulting from the initial calculation was 362 units. The research yielded 448 fully completed surveys. Additionally:

- 115 individuals (participating in the survey) expressed interest in further participation in the research project (by sending links to scientific publications on family businesses or participating in workshops),
- 11 individuals (participating in the survey) expressed interest in further participation in the research project and in participating in the qualitative study. Given the lack of official statistics on the number of family businesses in individual voivodeships, the quantitative research decided to use data from a ranking developed by Dun & Bradstreet in collaboration with Forbes magazine to determine the minimum sample size.

This ranking included companies in which at least two shareholders had family ties, held a minimum of 50% plus one share, and had been in continuous operation for eight years. Additionally, companies had to meet the following criteria:

- in 2020, they had to generate revenues of at least PLN 10 million net;
- consistently demonstrate a positive financial performance in recent years;
- not be in bankruptcy or liquidation;
- be in good financial condition;
- enjoy an impeccable reputation.

Companies in the ranking are classified into two categories: those with annual revenues of up to PLN 100 million and those above this amount.

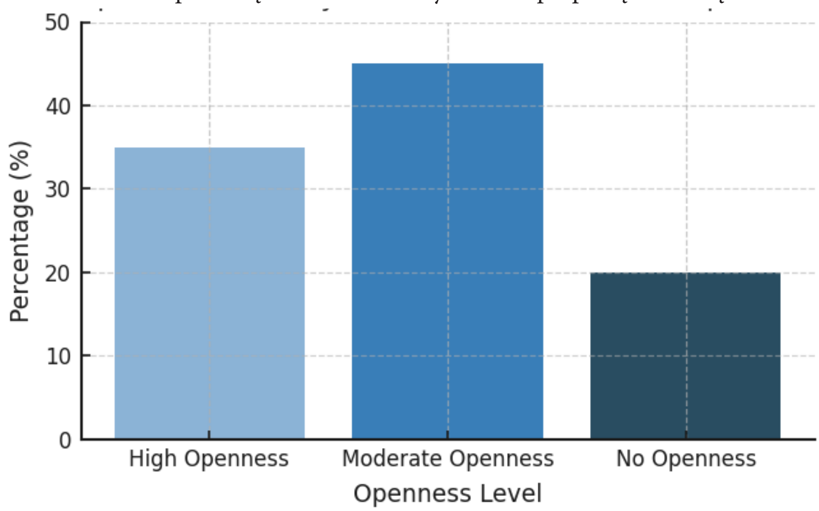
The study encompassed the following key areas:

- Assessment of openness to collaboration within network structures;
- Readiness to participate in clusters;
- Identification of the benefits and barriers of clustering;
- Analysis of factors determining the effectiveness of cooperation.

The findings indicated that family businesses in Poland demonstrate varying levels of readiness to engage in network collaboration:

- 35% of enterprises declared a high level of openness to network-based activities;
- 45% reported moderate openness accompanied by caution;
- 20% expressed no interest in this form of cooperation (see Figure 1).

Figure 1. Openness of Family Businesses to Network Cooperation
Rysunek 1. Otwartość przedsiębiorstw rodzinnych na współpracę sieciową



Source: Author's own elaboration.

This distribution indicates that more than half of the surveyed companies (a combined 80% demonstrating high or moderate openness) at least consider participating in clusters. However, there remains a significant group of entities that exhibit caution or reluctance toward the idea of network-based cooperation.

Several key factors were found to influence the level of openness to collaboration:

- Generational leadership: Firms managed by the second or third generation demonstrated greater openness than those still under the leadership of their founders.
- Company size: Medium-sized enterprises showed a higher propensity for cooperation compared to micro-enterprises.

- Level of organizational formalization: Companies that had implemented quality management systems (e.g., ISO, TQM) were more inclined to engage in collaboration with external entities.
- Previous experience: Positive experiences with participation in EU-funded projects, business incubators, or industry associations significantly reinforced readiness to engage in cluster structures.

Conversely, openness to collaboration was limited by several barriers:

- Lack of trust in entities outside the family;
- Fear of losing control over internal processes or proprietary knowledge;
- Low awareness of the potential benefits arising from cluster participation;
- Deficiencies in competencies, particularly in managing partnership projects and acquiring external funding.

In order to enhance the openness of family businesses to cluster-based cooperation, the following recommendations were proposed:

- Implementation of training programs focused on network cooperation and partnership project management;
- Promotion of best practices and success stories of family businesses active in clusters;
- Development of local cluster support institutions to serve as intermediaries and trust facilitators;
- Provision of individualized strategic advisory services to family business owners regarding the benefits of network participation (see Tables 1, 2, and 3).

Table 1. Factors Increasing the Openness of Family Businesses to Network Cooperation
Tabela 1. Czynniki zwiększające otwartość przedsiębiorstw rodzinnych na współpracę sieciową

Factor	Impact on Openness
Generational leadership (second or third generation)	Increases
Medium enterprise size	Increases
Formalized management (e.g., ISO, TQM)	Increases
Experience in EU projects and industry associations	Increases

Source: Author's own elaboration.

Table 2. Barriers Limiting the Openness of Family Businesses to Network Cooperation
Tabela 2. Bariery ograniczające otwartość przedsiębiorstw rodzinnych na współpracę sieciową

Barrier	Effect
Lack of trust toward external entities	Limits openness
Fear of losing control over proprietary know-how	Limits openness
Low awareness of benefits associated with cluster participation	Limits openness
Deficiencies in competencies related to network cooperation management	Limits openness

Source: Author's own elaboration.

Table 3. Recommendations to Enhance the Openness of Family Businesses to Network Cooperation
Tabela 3. Zalecenia dotyczące zwiększenia otwartości przedsiębiorstw rodzinnych na współpracę sieciową

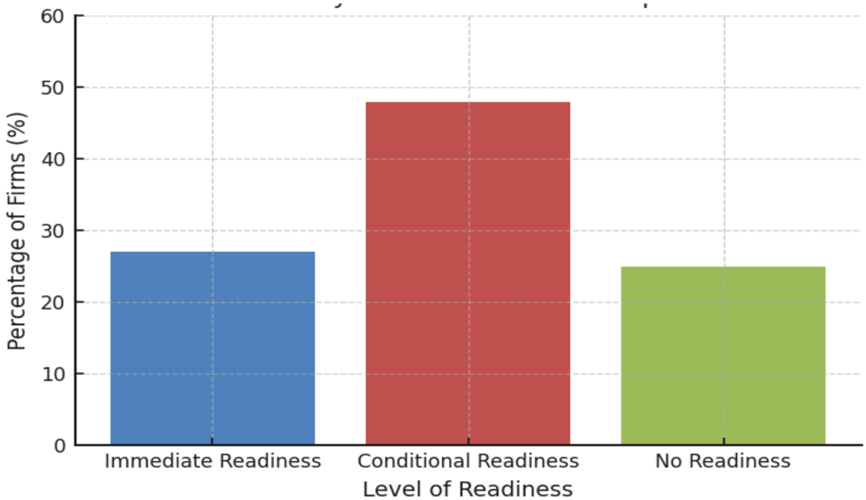
Recommended Action	Objective
Training in network cooperation	Improving collaboration competencies
Promotion of best practices	Increasing awareness and building trust
Development of local cluster support institutions	Facilitating relationships and mediation
Individual strategic consulting for family business owners	Supporting owners in strategic decision-making

Source: Author's own elaboration.

The study conducted on a sample of 254 family businesses revealed that:

- 27% of the surveyed firms were ready to immediately engage in a cluster initiative—indicating full organizational, competency-based, and mental readiness.
- 48% demonstrated conditional readiness, meaning they declared potential engagement contingent upon the fulfillment of specific conditions (e.g., availability of advisory support, risk reduction).
- 25% of the companies expressed a lack of readiness, primarily due to distrust, insufficient knowledge about clusters, and concerns over excessive interference with the firm's autonomy (see Figure 2).

Figure 2. Openness of Family Businesses to Network Cooperation
Rysunek 2. Otwartość przedsiębiorstw rodzinnych na współpracę sieciową



Source: Author's own elaboration.

These data suggest that more than three-quarters of family businesses are considering participation in clusters but require appropriate boundary conditions and institutional support to move forward.

Readiness to engage in cluster structures was conditioned by several key variables:

- Level of organizational innovativeness – firms exhibiting greater flexibility and having implemented modernization processes were more likely to express willingness to join a cluster.
- Experience in inter-organizational collaboration – businesses with prior involvement in network-based initiatives (e.g., EU-funded projects) more frequently declared readiness to participate.
- Educational level of the managerial staff – companies characterized by professional management (often of the second generation) demonstrated greater openness and awareness of cluster mechanisms.
- Geographic proximity and local embeddedness – enterprises operating in related industries within a defined geographic area demonstrated greater predisposition for cluster-based collaboration.

The most frequently cited barriers limiting the readiness of family businesses to participate in clusters include:

- Fear of losing decision-making autonomy,
- Insufficient knowledge about how clusters function,

- Lack of local cluster leaders or cooperation facilitators,
- Concerns about excessive intra-cluster competition,
- Incompatibility of the company's legal and formal structures with project-based cooperation.

Family businesses that had participated in, or were considering participation in, cluster initiatives most commonly identified the following benefits (see Table 4).

Table 4. Declared Benefits of Participation in Clusters
Tabela 4. Deklarowane korzyści wynikające z udziału w klastrach

Benefit	Significance (Frequency of Indication)
Opportunity to share knowledge and experience with other firms	High
Joint promotion and stronger market image	High
Easier access to training, consulting services, and R&D resources	High
Improved access to sales markets and market information	Medium
Joint procurement and the ability to negotiate better terms with suppliers	Medium
Opportunity to participate in EU-funded projects and joint investments	Medium
Strengthening competitive position through economies of scale	Moderate
Easier path to internationalization and expansion	Low

Source: own study based on own research.

This overview indicates that although family businesses are aware of the potential benefits associated with clustering, their full readiness for active participation is limited by structural deficiencies in knowledge, relational networks, and support infrastructure. Therefore, it is essential to strengthen educational, advisory, and institutional efforts aimed at building trust, fostering collaboration, and professionalizing cluster structures.

An analysis of the factors determining the effectiveness of cooperation among family businesses within cluster structures reveals the presence of both internal (firm-specific) and external (institutional and network-related) conditions—see Tables 5 and 6.

Table 5. Internal (Endogenous) Factors – Conditions Within Family Businesses
Tabela 5. Czynniki wewnętrzne (endogeniczne) – warunki panujące w przedsiębiorstwach rodzinnych

Factor	Description of Influence
Management style and power structure	Firms with more formalized structures and professional management adapt more effectively to network-based activities.
Generation of ownership	Second- and third-generation owners tend to be more open to cooperation and innovation than founders.
Social capital and family values	Trust, loyalty, and a long-term orientation foster durable cooperative relationships.
Experience in external projects	Firms with prior participation in EU initiatives or associations are more likely to engage in clusters.
Level of organizational innovativeness	Businesses employing process-oriented approaches, quality systems, and modern management tools are more flexible in partner relationships.

Source: Author's own elaboration.

Table 6. External (Exogenous) Factors – Network and Institutional Context
Tabela 6. Czynniki zewnętrzne (egzogeniczne) – kontekst sieciowy i instytucjonalny

Factor	Relevance to Cooperation Effectiveness
Presence of a cluster leader or cooperation facilitator	Crucial for initiating and coordinating activities and building trust among members.
Availability of support institutions (e.g., universities)	Enhances knowledge flows and reduces information asymmetries between firms.
Culture of trust and collaboration in the region	Supports long-term, value-based relationships within the cluster.
Alignment of goals and interests among partners	High strategic alignment improves cooperation effectiveness and minimizes conflicts.
Stability of the legal and institutional environment	Transparent and cooperation-friendly legal frameworks foster the development of network structures.

Source: own study based on own research.

The analysis indicates that the effectiveness of cooperation among family businesses depends primarily on three groups of factors:

1. Relational capital and trust – elements deeply rooted in family values.
2. Organizational and competency capabilities – the ability to manage relationships and partnership projects.
3. External and institutional support – the presence of cluster leaders, universities, local governments, and cooperation facilitators.

Thus, the effectiveness of cooperation is not determined solely by the readiness of family businesses but also by the quality of the network and institutional environment in which they operate.

DISCUSSION AND CONCLUSIONS

The results of the conducted research reveal significant determinants and constraints regarding the effective participation of family businesses in cluster structures. Although a majority of surveyed enterprises express a declarative openness to network-based cooperation (approximately 80% reported full or conditional readiness), actual involvement in formal clusters remains limited. This discrepancy calls for a deeper reflection on the factors influencing both motivation and barriers to collaboration.

On the one hand, the findings support the literature suggesting that family firms possess unique forms of social capital—high levels of internal trust, long-term orientation, and willingness to invest in relationships. These characteristics favor the formation of durable inter-organizational ties, which are foundational to clusters. Furthermore, the research showed that companies with more experience in network-based projects, professionalized management, and an innovative organizational approach demonstrate significantly higher collaboration effectiveness.

On the other hand, the identification of numerous barriers—such as lack of trust in external partners, concerns about loss of autonomy, low awareness of how clusters operate, and the absence of support institutions—indicates that the potential of family businesses is not fully realized. Particularly notable is the knowledge and skills gap in managing network relationships. This is corroborated by the literature, which emphasizes that family firms often operate conservatively and prefer bilateral rather than multilateral cooperation structures[15].

Another area requiring further investigation is the impact of ownership generation on readiness for cooperation. Findings suggest that successor generations are more open to clustering, potentially due to higher levels of education, training, and exposure to international networks. In this context, the succession process may represent not only a challenge but also an opportunity to strengthen network engagement in family enterprises.

The nature of clusters that family firms are willing to join also merits attention. Preferred models tend to be characterized by soft ties, flexible participation rules, and local embeddedness. In contrast, the "hard cluster" model – with strict management structures and formal obligations – may provoke resistance due to the

[15] J. Chrisman, J. Chua, P. Sharma, *Trends and directions in the development of a strategic management theory of the family firm*, "Entrepreneurship Theory and Practice" 2005, 29(5), 555–576.

strong emphasis family firms place on autonomy, both in decision-making and organizational culture.

In summary, the empirical data highlight the importance of cultural-organizational factors and institutional context for the effectiveness of collaboration among family businesses. Therefore, support for their engagement in clusters should not only include informational and promotional efforts but also encompass educational programs, strategic consulting, and the professionalization of network governance structures.

FINAL REMARKS

Family businesses represent a vital segment of the Polish economy, both in terms of their number and their contribution to added value and employment. Their participation in cluster structures can significantly enhance competitiveness, innovativeness, and resilience to market volatility. However, the results of the study indicate that despite the declared openness to network cooperation, actual engagement in clusters remains limited and is contingent upon a range of endogenous and exogenous factors.

Key determinants of effective collaboration include the level of management professionalization, experience in inter-organizational cooperation, openness to change among business owners, and the availability of institutional support. Major barriers are related to fears of losing control, lack of trust in external partners, and limited knowledge of how clusters function. At the same time, the identified benefits—such as joint promotion, knowledge transfer, and easier access to resources and projects—suggest that clusters represent a valuable developmental environment for family businesses, provided that appropriate cooperation conditions are met.

Both quantitative and qualitative findings confirm that effective integration of family firms into cluster structures requires not only entrepreneurial initiative but, above all, systemic support from business support institutions, local governments, universities, and cluster leaders. It is also essential to foster a culture of trust and local cooperation, conducive to building networks based on shared values and goals.

In light of the conducted analysis, the cluster emerges not only as an economic structure but also as a platform for social capital, the potential of which can be fully activated in family firms through well-targeted education, consulting, and cooperation facilitation.

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HUMANITAS Zarządzanie 2025 (3), s. 147-157

Original Article

Received: 10.05.2025
Accepted: 4.07.2025/14.07.2025
Published: 30.09.2025

Sources of funding for publications: *Humanitas University in Sosnowiec*

DOI: 10.5604/01.3001.0055.2901

Authors' Contribution:
(A) Study Design (projekt badania)
(B) Data Collection (zbieranie danych)
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ENVIRONMENTAL MANAGEMENT AND PROBLEMS OF INDUSTRIAL ECOLOGY IN ENTERPRISES

ZARZĄDZANIE ŚRODOWISKIEM I PROBLEMY EKOLOGII PRZEMYSŁOWEJ W PRZEDSIĘBIORSTWACH

Abstract: The purpose of this article is to explore the issue of environmental management in enterprises, to analyze the relevant problems of industrial ecology, to present the impact of enterprise activities on the environment and the improvement of its quality, and to promote a pro-environmental attitude. The article aims to provide an overview of relevant issues and point out the need to take measures to ensure sustainable and responsible industrial activity in the area of environmental protection in enterprises. The project raises important issues and presents measures to ensure sustainable and responsible industrial activity in the area of environmental protection in enterprises. It presents the most common problems of environmental protection in enterprises, identifies the most important causes of their emergence and the effects with which enterprises deal with them, gives examples of environmental measures to reduce emissions of pollutants, greenhouse gas emissions, water and soil pollution, degradation of ecosystems, depletion of natural resources and generation of industrial waste, and legal aspects of environmental protection in Poland. Based on the survey, an analysis of the state of the environment among the surveyed enterprises is undertaken and the conclusions of the survey are presented.

Keywords: enterprise management, sustainable development, environmental management, environmental protection

Streszczenie: Celem niniejszego artykułu jest zgłębienie problematyki zarządzania środowiskiem w przedsiębiorstwach, analiza istotnych problemów związanych z ekologią przemysłową, przedstawienie wpływu działalności przedsiębiorstw na środowisko i poprawę jego jakości oraz promowanie postawy proekologicznej. Artykuł ten ma na celu dostarczenie przeglądu istotnych zagadnień i wskazanie na konieczność podejmowania działań w celu zapewnienia zrównoważonej i odpowiedzialnej działalności przemysłowej w obszarze ochrony środowiskowej w przedsiębiorstwach. Projekt porusza istotne zagadnienia i przedstawia działania, których celem jest zapewnienie zrównoważonej i odpowiedzialnej działalności przemysłowej w obszarze ochrony środowiskowej w przedsiębiorstwach. Przedstawia najczęstsze problemy ochrony środowiska w przedsiębiorstwach, określa najistotniejsze przyczyny ich powstawania oraz skutki, z którymi mają do czynienia przedsiębiorstwa, podaje przykłady działań ekologicznych redukujących emisję zanieczyszczeń, emisję gazów cieplarnianych, zanieczyszczenie wód i gleby, degradację ekosystemów, wyczerpywanie zasobów naturalnych oraz generowanie odpadów przemysłowych oraz aspekty prawne dotyczące ochrony środowiska w Polsce. W oparciu o przeprowadzoną ankietę podjęto analizę stanu środowiska wśród przedsiębiorstw badanych oraz przedstawiono wnioski z badania.

Słowa kluczowe: zarządzanie przedsiębiorstwem, zrównoważony rozwój, zarządzanie środowiskiem, ochrona środowiska

INTRODUCTION

Environmental management and problems of industrial ecology are important issues in today's society, which places increasing emphasis on sustainability and environmental problems. Companies, as important business entities, play an important role in shaping green practices and approaches in their operations. Their attitudes toward environmental protection can vary and depend on a number of factors such as the business sector, size of the company, organizational culture, legislation and environmental awareness of managers.

Some companies have a strong commitment to environmental protection and take measures to minimize the negative impact of their activities on ecosystems. They implement innovative technologies, adopt sustainable business practices and take measures to reduce emissions and optimize resource use. Unfortunately, there are also companies that are unaware of the environmental impact of their activities or do not pay any attention to it. This is often dictated by the desire for unscrupulous profit and the deliberate avoidance of additional environmental costs. Lack of environmental awareness, lack of understanding of the economic benefits of sustainable development practices or lack of social responsibility result in these companies not taking action to protect the environment.

CAUSES AND EFFECTS OF ENVIRONMENTAL PROBLEMS IN ENTERPRISES

An environmental problem arises when significant social groups (groups of individuals, organisations, institutions) consider the consequences of certain actions to be negative for the environment. Adopting this definition of environmental problems, we can see that they are linked to social problems; available information and scientific discoveries reinforce social perceptions, while a lack of such information leads to low environmental awareness and passivity.

Currently, the state of the environment is slowly but steadily improving. The reason for this improvement was the economic recession in the 1980s and 1990s and the increasing number of companies adopting pro-environmental policies.

Efficient environmental monitoring allows for faster responses to limit the negative effects on the environment. Increased environmental awareness in factories and an increasing number of investments focused on environmental protection allow for a reduction in the number of environmental problems in companies.

Unfortunately, technological development also brings new causes of environmental problems, and unresolved previous problems only pile up and create an 'avalanche effect' that will be more difficult to stop the later it is addressed.

Excessive consumption and, as a consequence, increased production, higher demand for products and services, short product life cycles and poor product quality lead to increased industrial production. This, in turn, is associated with greater consumption of raw materials, energy and water, and thus the production of more waste and the emission of pollutants. Improper resource management and the lack of an eco-efficiency strategy only exacerbate the extent and number of ecosystem problems.

Another cause of environmental problems is often outdated infrastructure and technology in plants, which primarily contributes to lower efficiency and greater harm to the environment. Lack of modernisation and upgrades often leads to higher emissions and greater consumption of resources. Unfortunately, investing in clean environment technologies requires significant financial outlays, which is not seen as a priority by most companies, especially those struggling to stay afloat in the market.

The problems are often related to low environmental awareness, a lack of awareness of the consequences of activities for the environment, or a lack of scruples, focusing only on profits and deliberately ignoring environmental problems, and non-compliance with environmental regulations and standards. Many companies evade general environmental principles, causing enormous environmental damage.

In order to solve environmental problems in companies, it is necessary to take action on many levels, such as introducing innovative technologies, increasing environmental awareness, complying with regulations, promoting social responsibility and supporting the development of a sustainable economy, and focusing on long-term goals.

Every company contributes to a greater or lesser extent to the negative impact on the natural environment, which is why it is so important that its activities are in line with environmental policy and that the products it manufactures comply with environmental standards[1].

Environmental problems carry with them environmental risks and threats. Environmental risk is described as the excessive exploitation of raw materials and the negative impact on the environment as a result of biospheric and anthropospheric influences. An important factor in the characterisation of environmental risk is the dynamics with which potential threats caused by human activity develop[2].

The consequences of failing to properly address environmental protection have many negative implications for business activities. The biggest problem is the destruction of the natural environment, but companies also face financial, operational, legal and social consequences. The reputation and image of businesses may be damaged, and companies may lose the trust of their customers. Violations of environmental regulations and standards have legal consequences, with companies facing heavy financial penalties and the need to repair environmental damage. Failure to take environmental protection into account in business strategies can lead to a lack of sustainable development for the company.

The effects of environmental problems in industry appear in a so-called causal chain, which begins with a physical phenomenon and results in undesirable consequences. As a result, we obtain direct effects, i.e. changes in nature, and indirect effects, i.e. production losses, financial losses, and condition losses. The result of environmental shortcomings may be reversible or irreversible[3].

[1] K. Poznańska, *Nowe formy innowacji*, SGH, Warszawa 2018, pp. 82-84.

[2] Z. Gródek-Szostak i A. Niemczyk, *Wiedza – gospodarka – społeczeństwo. Współczesne wymiary ryzyka w przedsiębiorstwach i jednostkach samorządu terytorialnego*, Polskie Towarzystwo Inżynierii Rolniczej, Kraków 2021, pp. 63-64.

[3] P. Matczak, *Problemy ekologiczne jako problemy społeczne*, Wydawnictwo Naukowe Uniwersytetu im. A. Mickiewicza w Poznaniu, Poznań 2020, p. 50.

THE IMPACT OF ENVIRONMENTAL ISSUES ON A COMPANY'S IMAGE AND THEIR CONSEQUENCES

Competitiveness poses a major threat to businesses, which is why companies strive to provide the highest quality services, train their employees, modernise their products and processes, and increase their environmental protection activities. The public's environmental awareness is growing, so companies must also demonstrate considerable knowledge and commitment to environmental protection in order to protect their reputation.

Environmental problems in businesses have serious consequences for both the companies themselves and the natural environment. These consequences often have negative financial, operational, social and ecological repercussions. A significant consequence of environmental problems in companies is damage to their reputation and image. Companies that are associated with a negative impact on the environment may lose the trust of many customers, investors and the general public. A negative image can lead to a decline in sales, loss of customers and difficulties in attracting investment.

Violations of environmental regulations and standards can also have legal and financial consequences. Companies may be subject to financial penalties, the need to repair environmental damage, and the introduction of costly technologies and processes to improve their operations. They may be subject to orders to pay for pollution emissions, recycling and waste disposal, or land reclamation. Financial penalties place a heavy burden on companies' budgets and are a significant obstacle to business operations, and repairing damage is more expensive than avoiding it.

Sustainable development practices, including energy saving, rational use of raw materials and recycling, allow for lower production costs, increased company efficiency and a competitive advantage.

Environmental problems in companies can also contribute to negative relations with the local community. If a given plant operates to the detriment of the environment and the community, protests and a loss of trust among the local community may occur.

The effects of poor environmental management also have a negative impact on the planet itself. The degree and scope of harmful activities and their magnitude are important. Air, water and soil pollution, ecosystem degradation and greenhouse gas emissions contribute to climate change, biodiversity loss and the destruction of natural resources, often irreversibly.

Due to the negative effects of unsustainable environmental management in factories, more and more companies are realising the need to take action to protect the environment. Sustainable development practices, investing in environmentally friendly technologies and incorporating environmental aspects into business strategies are becoming increasingly important. Factories are trying to reduce the negative impact of their activities on the environment and strive for a better future.

The success of companies is primarily correlated with consumer demand for their products. However, in order to correctly determine the impact of pro-environmental activities on the competitiveness of companies at a given moment, we must also take into account the current economic situation[4].

ENVIRONMENTAL PROTECTION IN ENTERPRISES – RESULTS OF OWN RESEARCH

The research was conducted using a questionnaire survey among employees of manufacturing companies. Fifty-eight correctly completed questionnaires were obtained and included in the evaluation. 63.8% of respondents were men and the remaining 36.2% were women. The age of the respondents was evenly distributed: 37.9% were aged 31-40, 32.8% were over 41, and 29.3% were aged 20-30. The predominant level of education among the respondents was higher education (74.1%), while 24.1% had secondary education. The majority of respondents, as many as 74.1%, had worked at their current company for up to 10 years, while only 5.2% had worked there for over 20 years.

The aim of the survey was to find out the opinions of company employees on environmental protection and environmental management in the plants where they work. The survey was designed to verify whether the orders and recommendations introduced by institutions regarding environmental protection and management are complied with in companies and whether they are sufficient in the opinion of the respondents. The results of the survey will allow for the definition of approaches and strategies for environmental management based on the respondents' answers, the presentation of the state of the environment in companies, a summary of the measures taken in the field of environmental protection and an assessment of their effectiveness. The target group consisted of employees of companies in various positions, with different professional experience and length of service.

Based on the data collected from the survey, clear trends can be observed: the majority of respondents (60.3%) believe that their company rarely contributes to environmental problems, 20.7% believe that it does so quite often, while 18.9% of respondents said that their companies contribute to environmental problems frequently.

As many as 69% of respondents believe that environmental problems in companies often affect their image, 10.3% believe that this has a moderate impact on their image, while 20.7% of respondents believe that a company's environmental

[4] M. Krawczyk, *Konkurencyjność przedsiębiorstw w świetle uwarunkowań ekologicznych*, „Zeszyty Naukowe Uniwersytetu Szczecińskiego. Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania" 2012, nr 25, pp. 343-356.

problems rarely affect its image. The research also showed that the greatest impact of companies on environmental pollution is evident in the waste generation and storage sector, as confirmed by 39.7% of respondents, while 37.9% believe that the company's activities have no impact on the environment. Respondents also often perceived environmental pollution and excessive noise as a result of companies' activities. 22.4% also noted the problem of not using renewable energy sources in their company. In the other sectors proposed in the survey, no significant impact of companies on the environment was noted, with a small number of people choosing other categories (including destruction of nature and landscape, soil destruction, and industrial accidents).

Almost two-thirds of respondents (63.8%) say that companies use environmental management strategies and implement pro-environmental measures, 10.3% say that such measures are used sometimes, and as many as 25.9% say that they are used rarely or not at all. When listing the pro-environmental measures taken by companies, recycling is the most common, as indicated by over three-quarters of respondents. Other measures indicated by around half of respondents include: investment in innovative, pro-environmental technologies, reduction of losses and minimisation of waste, environmental education of employees, and inclusion of environmental issues in strategies and missions (Table 1).

Table 1. Types of pro-environmental activities in companies
Tabela 1. Rodzaje działań proekologicznych w firmach

Types of pro-environmental activities in companies	**Proportion of responses**	
	Number of indications	**Percentage share**
Environmental education for employees	28	15,4
Reducing losses, minimising waste	31	16,9
Recycling	44	24,0
Use of renewable energy sources	23	12,6
Investments in innovative, environmentally friendly technologies	31	16,9
Inclusion of environmental issues in strategies and mission statements	24	13,1
No action	2	1,1

Source: own study based on research conducted.

It can be noted that the main initiators of environmental activities are company management boards. Employees themselves were not significantly involved in the implementation of pro-environmental activities. As many as 41.4% of respondents did not introduce any environmental improvements. The most common environmental measures introduced by employees include waste segregation, recycling and optimisation of heat and energy sources. According to the respondents, there is a need to introduce changes to reduce the negative impact of companies on the environment. 27.6% of respondents do not see the need for change. Opinions on the type of specific measures are divided. The most approval was given to increasing environmental education, using renewable energy sources and optimising heat and energy sources. The need to introduce such solutions may be dictated by the fact that these are the most popular and heavily promoted environmental solutions. Based on the data presented, most respondents see the need for environmental education, while those surveyed do not notice that companies often have an impact on environmental issues. Improving environmental education will enable the identification and understanding of impacts that are not immediately apparent and require in-depth analysis and data correlation.

CONCLUSIONS

Environmental management in Poland is based on the Nature Conservation Act and other management instruments, and is carried out by the relevant authorities, institutions and offices. Many pro-environmental organisations, foundations and associations are also actively involved. Strategies, programmes and plans are also important tools in environmental management[5]. All these aspects directly or indirectly force or, to some extent, encourage companies to address the issue of nature conservation in their plants. Without individual actions, decisions and environmental management by a given company, it would be impossible to achieve any pro-ecological changes.

The growing environmental awareness of societies also contributes to the trend of increasing environmental protection strategies in companies. Entrepreneurs mainly rely on the principles of sustainable development, taking into account social interests and the natural environment, and focus their attention on environmental protection issues. The image of companies in the context of taking into account the principles of sustainable development has a significant impact on their competitiveness in the market. Systems are being implemented in accordance with ISO 14000, EMAS, the Cleaner Production Programme (CP EMAS), life cycle assessment (LCA), etc., thanks to which production plants have clearly defined tasks, environmental objectives and areas of responsibility, and an efficient environmen-

[5] J. Bąk, *Zarządzanie środowiskiem i zarządzanie środowiskowe*, Politechnika Krakowska, Kraków 2021, pp. 25-27.

tal protection system in the company contributes to greater transparency in this area, minimises costs related to waste, sewage, recycling, etc., and allows for long-term success and a good reputation among customers[6].

The implementation of environmental protection systems and the establishment of sustainable development principles should be the most important aspect of every company. The effectiveness of these measures depends largely on access to advanced technologies, but even the smallest steps bring us closer to positive results in terms of environmental protection.

Environmental protection issues in companies have a significant impact on the natural environment and society. The main environmental issues in factories include greenhouse gas emissions causing global warming, water management, waste and recycling, air pollution, and the impact on biodiversity and ecosystems.

The impact of businesses on negative environmental effects is enormous, as confirmed by scientific sources, which is why it is so important to introduce pro-environmental measures that benefit the entire ecosystem. By introducing environmental protection measures, companies gain public approval, often experience financial gains as a result, generate savings and avoid penalties for causing damage to the environment.

Unfortunately, environmental protection measures are not very popular, precisely because of the financial contribution that must be made in the initial stages. Modern, environmentally friendly technologies are relatively expensive nowadays and the return on investment is often quite low. A pro-environmental approach is therefore a kind of investment, or a compromise that we have to choose, but it is a decision that allows for a humane approach to the environment.

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The contribution of particular co-authors to preparation of the paper:
Wkład poszczególnych autorów w przygotowanie publikacji:
Jolanta Sebastian – 80%, Olimpia Grabiec – 20%

HUMANITAS Zarządzanie 2025 (3), s. 159-171

Original Article

Received: 17.06.2025
Accepted: 20.08.2025/25.08.2025
Published: 30.09.2025

Sources of funding for publications: subsidy granted to the Krakow University of Economics – project no. 055/ZZH/2024/POT.

DOI: 10.5604/01.3001.0055.2902

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SOURCES OF COMPETITIVE ADVANTAGE OF THE TOURISM BUSINESS SELF-GOVERNMENT IN POLAND

ŹRÓDŁA PRZEWAGI KONKURENCYJNEJ TURYSTYCZNEGO SAMORZĄDU GOSPODARCZEGO W POLSCE

Abstract: The article aims to identify the sources of competitive advantage of the tourism business self-government in Poland. Its organizational form consists of chambers formed by associated entrepreneurs. The article uses an example from business practice, focusing on the activities of the Polish Chamber of Tourism. The considerations presented are conceptual. The article employs critical analysis and the case study method. During the discussions, references were made to the issues of competitive advantage and its sources. An attempt was also made to address selected issues related to the activities of the tourism business self-government.

Keywords: competitive advantage, tourism business self-government, chambers of commerce, Polish Chamber of Tourism

Streszczenie: Celem artykułu jest zidentyfikowanie źródeł przewagi konkurencyjnej turystycznego samorządu gospodarczego w Polsce. Jego formą organizacyjną są izby, które tworzą zrzeszeni w niej przedsiębiorcy. W artykule posłużono się przykładem z praktyki gospodarczej, zwrócono szczególną uwagę na działalność Polskiej Izby Turystyki. Prezentowane rozważania mają charakter koncepcyjny. W artykule posłużono się krytyczną analizą oraz metodą studium przypadku. W trakcie przeprowadzania rozważań odwołano się do problematyki przewagi konkurencyjnej oraz jej źródeł. Podjęto także próbę uszczegółowienia wybranych kwestii odnośnie do działalności turystycznego samorządu gospodarczego.

Słowa kluczowe: przewaga konkurencyjna, turystyczny samorząd gospodarczy, izby gospodarcze, Polska Izba Turystyki

INTRODUCTION

The functioning of the business self-government[1] institution is closely tied to the implementation of fundamental tasks aimed at maintaining social and economic stability[2]. This institution is considered one of the pillars of public administration alongside government administration and local self-government[3]. Additionally, it serves as an example of a formal institution that can respond to new economic challenges and play a role as a partner in dialogue with public administration entities[4]. In Poland, the activities of the business self-government are regulated by law, as reflected in the relevant normative-legal acts. Its most common organisational form consists of economic chambers, professional organisations of entrepreneurs' self-government, employer organisations, and organisations of the economic self-government of crafts[5].

The business self-government legitimises the influence of organisations composed of entrepreneurs on the economy while also contributing to reducing uncertainty in economic life. Examining the analysed type of self-government through

[1] In the opinion of K. Bandarzewski, the analysed example of self-government should be characterised as business-oriented, which accurately reflects its essence. Wider: K. Bandarzewski, *On the Scope of Public Tasks of Polish Chambers of Commerce*, „Forum Prawnicze" 2023, 6(80).

[2] I. Manczak, J. Dąbrowska, *Chambers of commerce as a Form of Business Representation in Poland: A Literature Review*, in: *Strategies, Innovation, and Human-Centric Practices in the Modern Organizations,* K.S. Soliman (ed.), Proceedings of the 45th International Business Information Management Association Conference (IBIMA) 25-26 June 2025.

[3] K. Kiljańska, *Izby gospodarcze jako szczególna forma realizacji konstytucyjnej wolności zrzeszania się przedsiębiorców*, „Przegląd Prawa Publicznego" 2024, 7-8.

[4] A. Zdebski, *Samorząd gospodarczy: po wielokroć TAK*, https://www.rp.pl/opinie-ekonomiczne/art38118221-andrzej-zdebski-samorzad-gospodarczy-po-wielokroc-tak, Rzeczpospolita, 2023 [DOA: 5/06/2025].

[5] D. Cendrowicz, *Instytucja samorządu gospodarczego w prawie polskim na tle rozwiązań krajów europejskich*, „Acta Universitatis Wratislaviensis" 2021, 4058 PRAWO CCCXXXIII, p. 22.

the lens of achievements in management sciences reveals interesting theoretical aspects and current research directions. One of them is to specify issues related to identifying sources of competitive advantage of the distinct community that represents the interests of entities conducting business activities in a chosen field of the economy (including trade, industry, services, etc.).

The article aims to identify the sources of competitive advantage for the tourism business of self-governments in Poland. The presented reflections are conceptual and preliminary.

OBJECTIVE AND RESEARCH METHOD USED

The identification of issues covered by the analysis corresponds with legal, managerial, and entrepreneurial problems. The article reviews publications from the subject literature of a legal and economic nature. During the discussions, critical analysis was employed[6]. Considering the scope of the undertaken considerations, it was decided to apply the case study method[7]. This method plays a typical role for qualitative methods[8]. It was assumed that the adopted research approach would enable the specification of the issues, considering the nature of the respective scientific discipline. A detailed analysis included the Polish Chamber of Tourism (PCT). This choice was justified assuming that this entity can be recognised due to its established purpose, operating in a specific industry, as well as considering the relevant circumstances[9].

The following research questions were formulated:

- What key areas can be pointed out related to the activities of the tourism business self-government?
- What are the sources of competitive advantage of the analyzed self-government?

Answers to the aforementioned questions were developed based on the results of the conducted research, as well as discussions of theoretical issues and analysis of an example from economic practice.

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6 N. Fairclough, *Critical discourse analysis as a method in social scientific research*. In: *Methods of Critical Discourse Analysis*, R. Wodak, M. Meyer (eds.), SAGE, London 2001.

7 R.K. Yin, *Case Study Research. Design and Methods*, Sage Publications, Thousand Oaks – London – New Delhi 2014.

8 B. Glinka, W. Czakon, *Podstawy badań jakościowych*, PWE, Warszawa 2021, p. 53.

9 W. Czakon, *Zastosowanie studiów przypadku w badaniach nauk o zarządzaniu*. In: *Podstawy metodologii badań w naukach o zarządzaniu*, W. Czakon (ed.), Wolters Kluwer, Warszawa 2015, pp. 189-210.

COMPETITIVE ADVANTAGE AS A SUBJECT OF RESEARCH

Competitive advantage is a key conceptual category in strategic management considerations[10]. The term exhibits the characteristics of an independent variable, whereas its development is a dependent variable[11]. In the vast majority of cases, it is assumed that available resources and creative skills condition the building and maintaining of a competitive advantage[12]. Additionally, areas are also indicated that define the directions of research dedicated to this conceptual category. These studies focus on aspects such as concepts, significance, sources, types, and characteristics[13]. It has been decided to identify the sources of competitive advantage of a selected representation of the business self-government. In further consideration, it is essential to focus attention on this aspect regarding the activities of tourism enterprises that create the environment of the analysed self-government.

Table 1 outlines the sources of competitive advantage. Internal sources are closely tied to the resource-based view of the enterprises. This perspective assumes that each enterprise has specific resources[14]. The presented approach is based on both external and internal sources and integrates them. In the further part of the discussion, attention is drawn to those of an internal nature.

Table 1. Sources of competitive advantage
Tabela 1. Źródła przewagi konkurencyjnej

Type	Characteristics
External sources	related to macroeconomic conditions, the competitive situation in the sector, including those strongly emphasized by representatives of the positional school,
Internal sources	they are linked to resources as the basis for competitive advantage obtained by enterprises and have a direct reference to the resource-based school,
External and internal sources	together determine the competitive advantage.

Source: own study based on A. Kolemba, *Relacje z interesariuszami jako źródło przewagi konkurencyjnej*. In: *Konkurencyjność przedsiębiorstw i źródła przewagi konkurencyjnej*, A. Janiak, A. Kolemba, J. Śmietanka (eds.), Exante, Wrocław 2017, p. 14.

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10 I. Farida, D. Setiawan, *Business Strategies and Competitive Advantage: The Role of Performance and Innovation*, „Journal of Open Innovation: Technology, Market, and Complexity" 2022, 8(3).

11 A. Kolemba, *Relacje z interesariuszami jako źródło przewagi konkurencyjnej*. In: *Konkurencyjność przedsiębiorstw i źródła przewagi konkurencyjnej*, A. Janiak, A. Kolemba, J. Śmietanka (eds.), Exante, Wrocław 2017, p. 13.

12 S.A. Zahra, *The resource-based view, resourcefulness, and resource management in startup firms: a proposed research agenda*, „Journal of Management" 2021, 47(7).

13 L. Sołoducho-Pelc, *Przewaga konkurencyjna – główne trendy badawcze*, „Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu" 2016, 444, p. 424.

14 B. Deszczyński, *Zasobowa teoria przedsiębiorstwa i koncepcja logiki usługowej w świetle podejścia relacyjnego w zarządzaniu*, „Przegląd Organizacji" 2019, 1(948), p. 21.

Key resources and unique factors are summarised by the acronym VRIO: valuable, rare, inimitable, and organised[15]. These resources are intangible and are also closely tied to the organisation's employees. Their accumulation contributes to building a competitive advantage. However, the significance and value of resources are also conditioned by market forces. As a result, resources that are significant and valuable in a particular situation or industry may prove worthless in other circumstances[16]. Building on the aforementioned points, it can be said that sources of competitive advantage should be sought within the organisation, and the primary managerial task is to prepare it to dynamically receive market signals[17]. It can be assumed that analysing the organisation's resources enables one to capture important characteristics that determine its competitive advantage and the direction of the market strategy being developed.

TOURIST BUSINESS SELF-GOVERNMENT – SYSTEMATIC OF CONCEPTS

Business self-governance is an example of an interdisciplinary conceptual category. It is treated as a subject of research in disciplines such as history, economics and finance, management and quality sciences, legal sciences, as well as political science, administration, and law. In the literature on the subject, business self-governance has been defined/identified as special, non-territorial, corporate, personal, or professional-economic self-governance. The most accurate term among those mentioned is special self-governance[18]. Together with professional self-governance, it is classified as a special form of self-governance based on a bond other than territorial[19]. In economic terms, business self-governance exemplifies the functioning of formal institutions. These institutions, as basic structures, contribute to shaping an order that enables the reduction of uncertainty associated with transactions[20]. According to the applicable legal order, business self-government is understood as an example of a public law institution established by statutory

[15] N. Amaya, C.A. Bernal-Torres, Y.W. Nicolás-Rojas, T.T. Pando-Ezcurra, *Role of internal resources on the competitive advantage building in a knowledge-intensive organisation in an emerging market*, „VINE Journal of Information and Knowledge Management Systems" 2024, 54(5), p. 1154.

[16] M. Marczewska, *Podejście zasobowe do organizacji*. In: *Zarządzanie, organizacje i organizowanie – przegląd perspektyw teoretycznych*, K. Klincewicz (eds.), Wydawnictwo Naukowe Wydziału Zarządzania Uniwersytetu Warszawskiego, Warszawa 2016, p. 336.

[17] B. Deszczyński, *Zasobowa teoria przedsiębiorstwa…*, p. 21.

[18] K. Bandarzewski, *Samorząd gospodarczy w prawie polskim. Studium prawne*, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków 2014, p. 79.

[19] B. Guziejewska, P. Marciniak, *Znaczenie dorobku nowej ekonomii instytucjonalnej dla rozwoju idei powszechnego samorządu gospodarczego w Polsce*, „Studia Prawno-Ekonomiczne" 2021, CXIX, p. 240.

[20] B.B. Nielsen, C.G. Asmussen, C.D. Weatherall, *The location choice of foreign direct investments: empirical evidence and methodological challenges*, „Journal of World Business" 2017, 52(1).

means to perform part of the tasks of public administration[21]. There is a belief that business self-government should fulfil the following tasks[22]:

- designated by the state, i.e., by-laws and regulations, in areas where it acts on behalf of the state and collaborates with government and local government authorities (local self-government),
- related to independently promoting and satisfying the interests of a chosen economic group, taking into account the freedom of action and the right to make independent decisions, as well as the right to self-determination of norms within legal limits.

The activities of Polish business self-government organisations are based on optional membership. This type of operational model is similar to solutions applied in the United Kingdom[23].

Table 2 presents the functions of business self-government, which not only outline its directions of action but also constitute a specific type of obligation towards the associated members. Each of the highlighted functions is important. However, particular attention should be paid to the one related to leadership. It is worth noting that leadership entails the obligation to identify areas for analysis and evaluation, protect the organisation from wasting resources, and ensure its actual results are achieved[24]. The activities of business self-government should focus on undertaking initiatives aimed at gaining and maintaining influence over economic issues and those affecting the conduct of business.

Table 2. Functions of business self-government
Tabela 2. Funkcje samorządu gospodarczego

Function	Characteristics
Diagnostic	assistance in diagnosing the needs of individual entrepreneurs and participation in meeting those needs (including training, fairs, exhibitions), pomoc w diagnozowaniu potrzeb poszczególnych przedsiębiorców i uczestnictwo w ich zaspokajaniu (m.in. szkolenia, targi, wystawy),
Supporting	assistance in identifying problems and conflict situations, including developing and implementing corrective actions or reaching mutual agreements or settlements through internal bodies (including arbitration courts and arbitration tribunals),

[21] R. Michalska-Badziak, *Udział samorządu lekarskiego w wykonywaniu zadań administracji publicznej*. In: B. Jaworowska-Dębska, *Decentralizacja i centralizacja administracji publicznej. Współczesny wymiar w teorii i praktyce*, B. Jaworowska-Dębska, E. Olejniczak-Szałowska, R. Budzisz (eds.), Wydawnictwo Uniwersytetu Łódzkiego, Łódź 2019.

[22] R. Kmieciak, *Pozycja ustrojowa samorządu gospodarczego w Polsce*, „Studia z Polityki Publicznej" 2016, 3(2(10), p. 91.

[23] D. Cendrowicz, *Instytucja samorządu gospodarczego…*, p. 26.

[24] P. Drucker, *The Drucker Foundation self-assessment tool: participant workbook*, Drucker Foundation Jossey-Bass, New York, San Francisco 1999.

Integrative	mobilization of entrepreneurs, institutional support for the organizational integration of entrepreneurs and motivating them to enhance the effectiveness of their actions, implemented by affiliated entities,
Educational	contributing to further specialization of society through the organization of seminars and meetings dedicated to improving the qualifications of its members, as well as the society itself,
Organisational	participation in social life through the implementation of activities of a cultural nature (including concerts, charitable events),
Leadership	the pursuit of obtaining and maintaining influence over economic activities in the country and abroad, as well as achieving one's interests through this.

Source: own study based on S. Dębski, *Samorząd gospodarczy: Polska, Europa, świat*, Dom Wydawniczy Duet, Łysomice 2013, p. 30.

In Poland, organisations of the tourism business self-government were established in conjunction with the development of legal frameworks dedicated to this market institution. The Act of May 30, 1989, on economic chambers outlines the principles of associating economic entities that are natural or legal persons within this type of representation. The activity of the tourism analysed self-government is exemplified by organisations whose members are entrepreneurs engaged in tourism activities. Basic tourism services include accommodations, food services (gastronomy), transportation, and services related to forms and types of tourism (e.g., spa services, conference and congress support)[25]. As a result, economic chambers that gather tourism entrepreneurs are examples of representation that provide broadly understood tourism services or one of the mentioned categories of services.

Tourist organisations of the business self-government undertake actions to protect and promote the business. In this context, this activity has a dual nature[26]:

- supporting entrepreneurs and providing services for them,
- representing the interests of business communities to public administration, often also fulfilling expert and lobbying functions.

The functions performed by the analysed self-government concern areas such as[27]:

- diagnosing the needs and factors determining the activities of entities in the tourism sector,
- supporting activities related to resolving conflict situations through alternative dispute resolution methods,

[25] A. Panasiuk, *Produkt turystyczny. Pojęcie, struktura, uwarunkowania kreowania*, „Przedsiębiorczość i Zarządzanie" 2019, 20(2(2)), p. 18.

[26] B. Guziejewska, P. Marciniak, *Znaczenie dorobku nowej ekonomii instytucjonalnej…*, p. 241.

[27] Ustawa z dnia 30 maja 1989 roku o izbach gospodarczych.

- integrating members around important initiatives related to their business activities,
- engaging in training activities for their members,
- organizing cultural events to strengthen social relations
- leadership in the industry to maintain influence on economic issues that affect the operations of tourism entrepreneurs.

Defining a tourist business self-government allows for a detailed specification of its areas of activity, which fit within the scope of the chambers' operations. These areas arise from the tasks designated in the applicable legal order. In Article 5 of the Act on Economic Chambers, it was established that chambers could[28]:

- contribute to creating conditions for the development of economic life and support economic initiatives of their members;
- promote, in cooperation with relevant educational authorities, the development of vocational education, support vocational training in workplaces, and enhance the professional skills of employees;
- delegate their representatives, at the invitation of state authorities, to participate in the work of advisory and opinion-giving institutions regarding manufacturing, trade, construction, and service activities;
- organise and create conditions for resolving disputes through amicable and conciliatory proceedings and participate under separately defined rules in court proceedings related to the business activities of its members;
- issue opinions on existing customs regarding business activities;
- inform about the functioning of entrepreneurs and express opinions on the state of economic development in the area of the chamber's operations.

POLISH CHAMBER OF TOURISM

PCT serves as an example of a national association for the tourism sector, having been in operation since 1990. This organization represents the interests of enterprises in the tourism industry, including travel agencies, tour operators, carriers, accommodation providers, as well as other economic entities related to the tourism sector. PCT focuses on activities dedicated to creating favourable conditions for the development of the tourism industry, ensuring compliance with business ethics standards, improving customer service standards, and promoting Polish tourism on the international stage[29].

Among practitioners, there is a view that entrepreneurial organisations are interested in creating an effective partnership with the representation of every author-

[28] Ibidem.
[29] https://www.trade.gov.pl/centrum-wsparcia/polska-izba-turystyki/ [DOA: 12/06/2025].

ity in order to care for the interests of entrepreneurs and provide decision-makers with wise advice, without hindering entrepreneurs in conducting their business activities. The reported viewpoint also determines the scope of initiatives undertaken by the tourism economic self-government. The PCT not the only entity that brings together entrepreneurs operating in the tourism sector. In Poland, there are also other organizations dedicated to the discussed issues. Among them are the Chamber of Commerce of Polish Hospitality and the Chamber of Commerce of Polish Gastronomy. Each has representation to ensure the interests of entrepreneurs are taken care of and to assist decision-makers through wise advice without hindering entrepreneurs in conducting their business activities.

Among the members of PCT are representatives from various sectors related to tourism, including those offering a variety of tourism services. Members of the chamber include travel agencies, accommodation facilities, academic institutions, event companies, tourism organizations, amusement parks, research institutions, insurance companies, ski resorts, branches of the national airline, companies offering booking systems, trade fair entities, entities involved in organizing the tourist information system, industry organizations, passenger transport operators, and historic sites[30]. It can be concluded that among the members of PCT, there are the most travel agencies or entities engaged in organizing trips.

DISCUSSION OF THE RESULT OBTAINED

As part of the adopted research assumptions, it was also decided to identify the sources of competitive advantage of PIT using a resource-based approach. This type of management approach in organisations with economic self-government does not differ significantly in its main assumptions from the approach to organisations operating in the private sector. Viewing the analysed issue through the lens of the VRIO concept implies distinguishing between resources, which are its key characteristics. The first category encompasses valuable resources that contribute to the efficient functioning and adaptation of the organisation to its external environment. A crucial task is to recognise and identify this category of resources. Undoubtedly, this task falls within the scope of managerial activities. In the case of a tourist chamber, it corresponds with the competencies of the board as well as individuals delegated from among its members. The process of identifying valuable resources is based on engaging in a broader discussion and reflection on the ways of categorising them. Another category of resources that provides a competitive advantage is those referred to as rare. Most often, these are resources that are not available on the market.

[30] https://pit.org.pl/czlonkowie/ [DOA: 12/06/2025].

This category encompasses the knowledge and skills, as well as the professional contacts, of individuals employed in tourism enterprises and those related to the activities of tourism organisations[31]. The discussed concept also distinguishes hard-to-imitate resources, i.e., those that competitors cannot easily copy. Such resources also have an immaterial dimension, as well as being related to knowledge about the functioning of a given economic environment and the principles of conducting business activities. The last category of resources is well-organised. It means that by having such resources, an organisation is capable of effectively utilising them through formal structures, control systems, or well-developed functional policies[32]. These resources should be combined with the organisation of tourist business self-government structures and the delineation of units at the regional or local level. The effective response of analysed self-government is determined by the structure of entities that associate tourism entrepreneurs within a given territorial arrangement and by their understanding of key issues that impact their activities. Reaching a standard position among such a diverse collective is not an easy task, nor is presenting the key issues concerning entrepreneurs. However, the profile of the members, due to the business activity they conduct, illustrates the diversity and variety of the offerings of tourist entrepreneurs. Moreover, it exemplifies the essence of the tourist product, which is the result of the activities of various tourism producers[33].

From the perspective of the discussed business self-government organisation, creating a position that takes into account the expectations of all its members remains a significant challenge. The presence of members specialising in various areas of business is an opportunity. Building on the presented view, it is worth noting that various tourism entities allow for a deeper explanation of practical issues related to conducting business activities and a more detailed discussion of topics that concern entrepreneurs. Tourism chambers of commerce are an example of organisations that should participate more in initiatives dedicated to developing strategies or other programs aimed at enhancing the promotion of Poland in the tourism sector, both domestically and abroad. Economic engagement can be treated as an opportunity.

CONCLUSIONS

Tourist business chambers are an example of organisations representing the interests of entrepreneurs that have established themselves within the structures of the market economy. Their primary tasks focus on issues related to economic devel-

[31] N. Amaya, C.A. Bernal-Torres, Y.W. Nicolás-Rojas, T.T. Pando-Ezcurra, *Role of internal resources…*, p. 1164.
[32] S. Flaszewska, A. Zakrzewska-Bielawska, *Organizacja z perspektywy zasobów – ewolucja w podejściu zasobowym*. In: *Nauka o organizacji: ujęcie dynamiczne*, A. Adamik (ed.), Wydawnictwo Nieoczywiste, Warszawa 2021, p. 231-236.
[33] I. Manczak, *Determinanty rozwoju turystyki międzynarodowej w miastach*, UKiP J&D Gębka, Gliwice 2015.

opment, including those involving business activities. The activities of the analysed chambers align with a range of initiatives that have a positive impact on the tourism industry's functioning. In the tourism sector, a notable example of a self-governing organisation is PCT. It has been established that the environment of its members is diverse due to the diverse range of business activities conducted. However, the representation of various interests can be turned into opportunities from the perspective of the national tourism industry, including in the context of building competitive advantage and organising effective promotional initiatives for Polish tourism.

During the discussions, it was decided to focus on areas related to the activities of tourism chambers, including referencing a selected example from business practice. The environment of the PCT comprises business entities that offer a diverse range of tourist services. On one hand, this may hinder the development of a standard position for the analysed chamber. On the other hand, the diversity of members may contribute to deepening the practical areas of its activities and the mutual exchange of experiences. An attempt was also made to identify the sources of competitive advantage of the tourist chamber by referring to the VRIO framework. This type of research approach enabled a more detailed specification of the resource categories that determine the competitive advantage of the analysed entrepreneurs.

The presented considerations are preliminary, exposing only some aspects related to the activities of tourism chambers of commerce. However, they may serve as a contribution to undertaking more in-depth research justified from the perspective of theoretical considerations and economic practice.

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HUMANITAS Zarządzanie 2025 (3), s. 173-186

Original Article

Received: 19.06.2025
Accepted: 5.08.2025/20.08.2025
Published: 30.09.2025

Sources of funding for publications: Politechnika Częstochowska

DOI: 10.5604/01.3001.0055.2903

Authors' Contribution:
(A) Study Design (projekt badania)
(B) Data Collection (zbieranie danych)
(C) Statistical Analysis (analiza statystyczna)
(D) Data Interpretation (interpretacja danych)
(E) Manuscript Preparation (redagowanie opracowania)
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IGNORANCE AS A DETERMINANT OF THE ADMINISTRATION OF THE PUBLIC PENSION SYSTEM IN POLAND

NIEWIEDZA JAKO DETERMINANT ZARZĄDZANIA PUBLICZNYM SYSTEMEM EMERYTALNYM W POLSCE

Abstract: In order to diagnose the functioning of the public pension scheme in Poland, it is necessary to know the extent of ignorance about the system among pension plan participants. The scale of this incomprehension significantly impacts the entities providing retirement education for the Polish society and should determine their further actions .

The aim of the study was to determine the level of knowledge of active participants in the pension system, to understand the extent of their ignorance and to gather the respondents' opinions on potential changes to the public retirement scheme. For the purposes of the study, research questions were formulated on the system's funding principles, parametric solutions and the extent of ignorance and potential changes needed to improve the efficiency of the studied system.

The study was carried out using a survey questionnaire on a sample of 502 active scheme participants.

The study concludes that there is a need to take action to improve knowledge among scheme participants so that they can take informed and requisite actions to ensure a secure existence in old age. To this end, participants should be motivated to improve their comprehension of the pension plan, be offered appropriate educational opportunities, and the level of knowledge of the scheme should be analysed on a regular basis.

Keywords: knowledge, ignorance, extent of ignorance, pension scheme, proposals for change.

Streszczenie: Aby zdiagnozować funkcjonowanie publicznego systemu emerytalnego w Polsce, konieczne jest określenie zakresu niewiedzy o systemie jego uczestników. Zakres tej niewiedzy ma istotny wpływ na podmioty odpowiedzialne za edukację emerytalną polskiego społeczeństwa i winien determinować ich dalsze działania.
Celem badania było określenie poziomu wiedzy aktywnych uczestników systemu, zakresu ich niewiedzy oraz zebranie opinii badanych o potencjalnych zmianach w publicznym systemie emerytalnym. Na potrzeby badania sformułowano pytania badawcze dotyczące zasad finansowania systemu, rozwiązań parametrycznych oraz zakresu niewiedzy i potencjalnych zmian niezbędnych do poprawy efektywności badanego systemu.
Badanie przeprowadzone zostało z wykorzystaniem kwestionariusza ankiety na grupie 502 aktywnych zawodowo uczestników systemu. Z przeprowadzonego badania wynika konieczność podejmowania działań zmierzających do poprawy stanu wiedzy uczestników systemu, tak by mogli podejmować świadome i konieczne działania w celu zapewnienia sobie bezpiecznego bytu w wieku senioralnym. W związku z tym należy motywować uczestników do poszerzania wiedzy, organizować im stosowne możliwości edukacyjne i systematycznie analizować stan ich wiedzy o systemie.

Słowa kluczowe: wiedza, ignorancja, zakres niewiedzy, system emerytalny, propozycje zmian

INTRODUCTION

The insured person's inocmprehension about how the pension system operates determines their future in the senior years. Without adequate knowledge in this regard, they are unable to take measures to prevent poverty and social exclusion at the end of their working lives.

For the purpose of this study, it was posited that knowledge management of the pension system involves the collection of information by the participants of the system, so that they can benefit from it both now and in the years to come. In an effort to analyze the present level of understanding of the pension system in Poland, it is necessary first of all to determine the extent of ignorance of its participants. The recognition of this knowledge gap should guide further actions of the entities responsible for pension education of Polish society, including planning and organizing education to improve public awareness on retirement mechanisms, motivating system participants to act, and analyzing the scope and effects of the actions taken.

From a theoretical point of view, the key issue was to decide whether the study will examine the scope of unawareness or the level of intentional disregard among respondents. The relationship between these concepts has been discussed, among others, by C. Mesjasz, who argues that ignorance is a normative and pejorative term denoting a lack of knowledge –specifically, the absence of fundamental knowledge – in a given field. A synonym for ignorance is, among others, lack of knowledge (unawareness), although it should be noted that in everyday language, "lack of knowledge" tends to carry a more neutral connotation. Ignorance may be partial – corresponding to incomplete knowledge – or total, reflecting a complete absence of knowledge. Interpretations and definitions of ignorance are relative in nature and are linked to the following concepts: truth, knowledge, uncertainty, competence, and complexity. Three specific types of unawareness are distinguished: ignorance as a natural condition, as a set of opportunities lost due to decision-making (choice), and as a result of a deliberately constructed social framework[1].

Notably, an international handbook dedicated to the study of ignorance has been compiled by M. Gross and L. McGoey[2], who, among other perspectives, conceptualize ignorance as a methodological tool for exploring knowledge – particularly forms of knowledge that are forbidden or has never been produced. Over time, ignorance has gradually become a heuristic entry point for the investigation of knowledge[3].

For the purposes of this article, a definition of ignorance has been adopted as it constitutes a less controversial subject of study. The aim of the research was to assess the respondents' level of knowledge about the Polish pension system, to identify knowledge gaps in this area, and to gather their opinions on what changes should be made.

Accordingly, the following research questions were formulated:

- How is the first pillar of the state pension financed in Poland?
- What are the eligibility criteria for acquiring pension entitlement and how the first pillar pension is calculated?
- What is the level of ignorance about the functioning of the first pillar pension?
- What should be changed in the mechanism of functioning of the the first pillar in the Polish pension system?

[1] See C. Mesjasz, *Ignorance and Knowledge in Management*, "Organization Review" 2017, No. 7 (930) , pp. 3-10 after N. Janich, L. Rhein, A. Simmerling , *Do I Know What I Don't Know? The Communication of Non-Knowledge and Uncertain Knowledge in Science*, "Fachsprache" 2010, Vol. 3-4, p. 95, http://www.fachsprachenet/upload/Articles/ . Janich_Rhein_Simmerling_Do_I_know_3-4_2010.pdf, accessed on: 18.01.2017; J. Roberts, *Organizational Ignorance: Towards a Managerial Perspective on the Unknown*, "Management Learning" 2012, Vol. 44, No. 3, p. 219; R.N. Proctor, *Agnotology. A Missing Term to Describe the Cultural Production of Ignorance (and Its Study)*, [in:] R.N. Proctor, L. Schiebinger (eds.), *Agnotology: The Making and Unmaking of Ignorance*, Stanford University Press, Stanford, 2008, p. 5.

[2] M. Gross, L. McGoey (eds), *Routledge International Handbook of Ignorance Studies*. Londres, Routledge, Taylor & Francis Group. New York 1015 DOI : 10.4324/9781315867762 .

[3] See C. Mesjasz, *Ignorance and Knowledge in Management*, Organization Review, No. 7 (930), 2017, pp. 3-10 after K. Knorr-Cetina, *Epistemic Cultures: How the Sciences Make Knowledge*, Harvard University Press, Cambridge 1999.

Investigation into the respondents' level of knowledge and incomprehension of the Polish social and health insurance system was made in late 2024 and early 2025 using a survey questionnaire on a group of 502 economically active respondents.

INSUREDS' KNOWLEDGE OF THE PENSION SYSTEM ILLUSTRATED THROUGH SELECTED INTERNATIONAL PUBLICATIONS

International literature on pension issues shows many reasons to believe that individuals may not be well informed about the mechanisms of operation of the pension system due to the complexity of the subject and the level of myopic thinking[4] demosntrated by system participants. Among others, I. Barrett, I. Mosca, B.J. Whelan assessed, as part of their research, the level of knowledge of Irish people about pensions and found that two-thirds of respondents were unaware of the amount they would receive after retiring and/or whether the pension would be paid as lump sums, monthly payments, or both. One of the conclusions of the survey was to address pension-related information to specific groups of the insured[5].

Knowledge/ignorance among pension system participants was also investigated in the Netherlands, where the beliefs, emotions and attitudes of employees and retirees were examined after they were informed about the new Dutch pension system. The results of the survey showed that a considerable part of the participants derived their opinions from previous experiences, misconceptions and (sometimes incorrect) interpretations of information. Nevertheless, respondents believe they know "how it works" and are confident in their knowledge. Many survey responses revealed a contradiction between lack of knowledge and strong confidence in their state of knowledge[6].

Also in Finland, there was a survey to analyse the public's knowledge about pensions and confidence in the pension system. The results of the survey showed that although the level of self-assessed knowledge is low, some key details of the pension system are well known. No gender-based differences were found in objective knowledge of pension mechanisms, nonetheless, age, educational attainment and income are correlated with awareness. Respondents who are younger, more educated, and have higher incomes are more likely to be aware of pension system details[7].

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[4] This is a lack of concern about the sources of financing one's existence in the post-working age.

[5] See A. Barrett, I. Mosca, B.J. Whelan, *Lack of Pension Knowledge*, Discussion Paper No. 7596 August 2013, Bomm, Germany p. 4.

[6] See A. van Hekken, J. Hoofs, E. Ch. Brüggen, *Pension Participants' Attitudes, Beliefs, and Emotional Responses to the New Dutch Pension System*, "De Economist" 2022, P. 170:173-194, https://doi.org/10.1007/s10645-022-09396-7 .

[7] S. Tenhunen, S. Kuivalainen, *Relationship Between Pension Knowledge, Trust in the Pension System, and Sociodemographic Factors*, "Cambridge University Press, Journal of Financial Literacy and Wellbeing" 2024, Volume 2, Issue 2, J p. 121-141 , DOI: https://doi.org/10.1017/flw.2024.1.

When it comes to determining the best method of providing information, research carried out in the USA has shown that financial education provided in the workplace can increase retirement saving and change the investment allocation of assets in retirement accounts[8].

The Swedish example shows that the shift from a defined-benefit to a defined-contribution pension system signifies a shift toward greater individual responsibility of the insured for their financial well-being in old age. Defined-contribution pensions typically involve more choices and more uncertainty about future retirement. Therefore, understanding the rules and incentives in the pension system play a key role and enables the participants to accumulate savings and prepare for retirement accordingly[9].

LEVEL OF KNOWLEDGE OF THE PUBLIC PENSION SYSTEM AMONG POLES

Research conducted so far in Poland has shown that knowledge of social insurance among the Polish repondents does not depend on the sources they refer to. The most commonly identified sources of information were: television (25%), in-person communications with Social Security Administration (17%), the website of Social Security Administration (12%), conversations with friends and family, and the online news media (12%). There is generally a lack of interest in social insurance – 46% of Poles do not seek information on the subject. Respondents have no awareness of social insurance, they do not make use of the available mechanisms of additional insurance, and place (little) hope in the base pension system represented by the Social Security Administration, which is not rated very highly by them[10]. As T. Jedynak notes in the report *Knowledge and Attitudes Towards Social Insurance* compiled by the Polish Social Security Administration (ZUS) (2016)[11] on the basis of thorough research, an index of knowledge about social insurance was developed, according to which respondents were classified into five categories: experts (0% of respondents), knowledgeable (7%), moderately knowledgeable (33%), poorly knowledgeable (45%), ignorant (15%). The overall picture of low retirement awareness among Poles is further exacerbated by a lack of specific understanding in the field of pension security provided under the base part of the

8 A. Barrett, I. Mosca, B.J. Whelan, *Lack of Pension Knowledge…*, p. 3,14.

9 M. Elinder, J. Hagen, M. Nordin, J. Säve-Söderbergh, *Who Lacks Pension Knowledge, Why and Does it Matter? Evidence From Swedish Retirement Savers*, "Public Finance Review" 2022, vol. 50(4), pp. 379-435, DOI: 10.1177/10911421221109061.

10 It is this institution that is engaged in the popularization of knowledge about social insurance. See R. Marczak, *Knowledge of Poles About the Pension System. Results of Empirical Research*, "Social Politics" 2016 thematic issue, p. 33-36.

11 *Knowledge and Attitudes Toward Social Insurance Research Report*, ZUS, Warsaw 2016.

pension system. Only one in three Poles (29%) believe that future pension may be less than half of the present salary, 17% believe that the pension will be only slightly less, and 5% believe that it will be the same or higher. The expressed insights are further confirmed by subjective evaluation of "pension knowledge" among Poles. In a survey conducted for the National Bank of Poland (NBP), 48% of respondents rated their knowledge in this area as rather low or very low. Nevertheless, it is worth noting that limited knowledge here does not necessarily imply an unwillingness to expand it, on the contrary – a desire to improve pension knowledge was the most frequently indicated area (54% of respondents)[12].

In mid-2023 K. Sekścinska conducted a survey entitled. "Retirement Awareness and Attitudes Towards the Pension System of Poles under 30." This survey shows that retirement is an important but non-urgent goal for 66% of respondents, and the complexity of the issue discourages engagement, which was expressed by as many as 75% of respondents, while over 50% of those surveyed consider the topic to be boring[13].

[12] T. Jedynak, *Determinants of Pension Exclusion from the Supplementary Part of the Pension System in Poland*, "Ekonomia – Wroclaw Economic Review Acta Universitatis Wratislaviensis" 2021, No. 4067, p. 18-20, https://doi.org/10.19195/2658-1310.27.2.1 after M. Cycoń, T. Jedynak, M. Płonka, *Attitudes of Students Towards Securing Old-Age Risk - An Empirical Study.* Publishing House of the Cracow University of Economics, Cracow 2020; Social Research and Innovation Workshop 'Stocznia' and IQS Group for the Department of Education and Publishing of the NBP. 2015, *The State of Economic Knowledge and Awareness of Poles*. accessed on: 7.01.2020, https://www.nbportal.pl/__data/assets/pdf_file/0006 /54528/Diagnoza-stanu-wiedzy-i-swiadomosci-ekonomicznej-Polakow-2015.pdf. Kronenberg Foundation at City Handlowy, 2016, *Attitudes of Poles Towards Finance.* Accessed on: 8 May 2019 http://www.citibank.pl/poland/kronenberg/polish/files/postawy_polakow_wobec_finansow_wrzesien_2016.pdf.

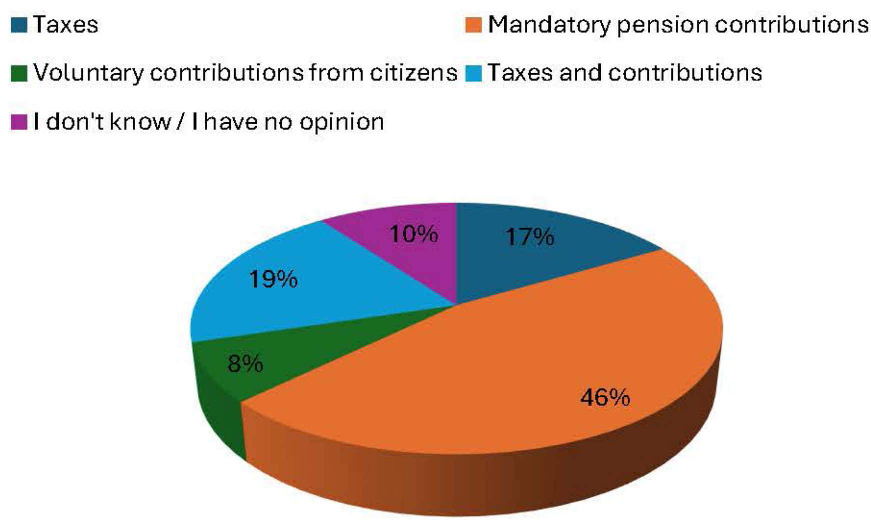
[13] I. Pogonowski, *Prospects for Pension Security For Economically Active People*, "Politics and Society" 2024, 2(22), p. 221, 229, DOI: 10.15584/polispol.2024.2.15; K. Sekścińska, *Retirement Awareness and Attitudes Towards the Pension System of Poles under 30*, [in:] *The Difficult Subject of Saving for Retirement*, Fornal, https://fornal.pl, accessed on 6.05.2025. In the Polish literature, there are also other publications regarding the awareness and pension knowledge of Poles, e.g. M. Cycoń, T. Jedynak, M. Płonka, *Postures of Students Towards Securing the Risk of Old Age - an Empirical Study*, Publishing House of the Cracow University of Economics, Cracow, Cracow 2020; E. Leśna-Wierszołowicz, *Pension Awareness of Poles*. Scientific Papers of the Wrocław University of Economics, 475,/2017, 159-169; M. Solarz, *Pension Awareness as a Condition for Effective Old Age Risk Management.* "Entrepreneurship and Management" 2019, no. 20 (1), 49-62; E. Cichowicz, J. Rutecka-Góra, *Awareness of Poles Regarding Additional Saving For Old Age - an Attempt to Assess And Identify Necessary Measures*, "Problemy Polityki Społecznej. Studies and Discussions" 2017, No. 38 (3), 89-103; J. Czapinski, M. Góra, *Poles' "Pension Awareness". Report based on a quantitative study*, Publications of the European Financial Congress. Warsaw 2016 accessed on 5.05.2025, https://www.efcongress.com/sites/default/files/analizy/raport.pdf.

INTERPRETATION OF THE RESULTS OF A SURVEY ASSESSING THE EXTENT OF INFORMATIONAL UNAWARENESS ABOUT THE PUBLIC PENSION SYSTEM AMONG INSURED PERSONS

A survey assessing the extent of knowledge and ignorance about the Polish social and health insurance system was conducted in late 2024 and early 2025 on a group of 502 respondents. The research focused on professionally active individuals employed under employment contracts, civil law contracts (including contracts of mandate, contracts for provision of services and contracts for specific work), people who run non-agricultural businesses and those cooperating with them (family members).

The largest group of insured persons surveyed were those performing contracts of mandate (47.79%) and those employed under a contract of employment (41.82). Another group of respondents consisted of persons engaged in non-agricultural businesses (8.17%) and persons whose social insurance coverage was not eligible for classification under any of the options included in the survey (7.37%). Other types of civil-legal contracts, for example contracts for provision of services (4.98%), contracts for specific work (3.39%) and agency contracts (4.98%) accounted for a small portion of the surveyed subjects. Only a negligible number of respondents in the survey belonged to the group of collaborators (1.60%).

Figure 1. Knowledge of public pension financing in Poland
Rysunek 1. Wiedza na temat finansowania publicznych emerytur w Polsce

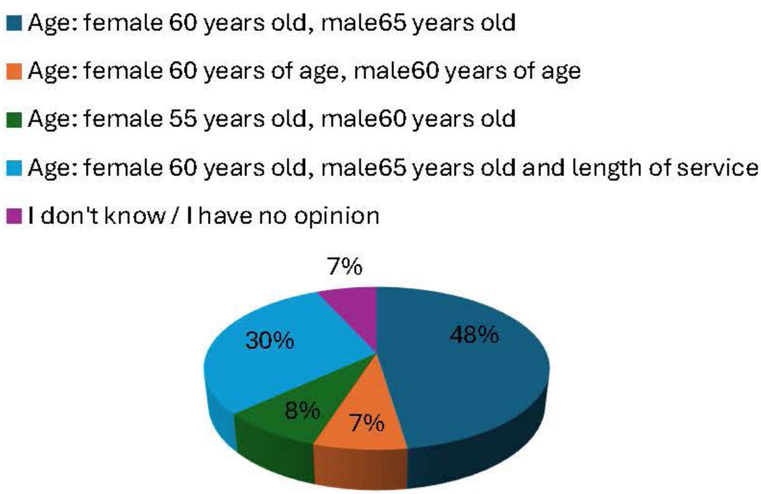


Source: developed by the author.

As the survey showed, respondents' understanding of the mechanisms governing the financing of the public pension system in Poland can be described as merely satisfactory, with only 46.33% of respondents knowing that the system is financed through mandatory contributions , whereas 43.52% held misconceptions regarding this issue.

What is even more concerning, as many as 10.15% of respondents have no knowledge on the subject, which shows the deficiencies in pension education of the Polish society.

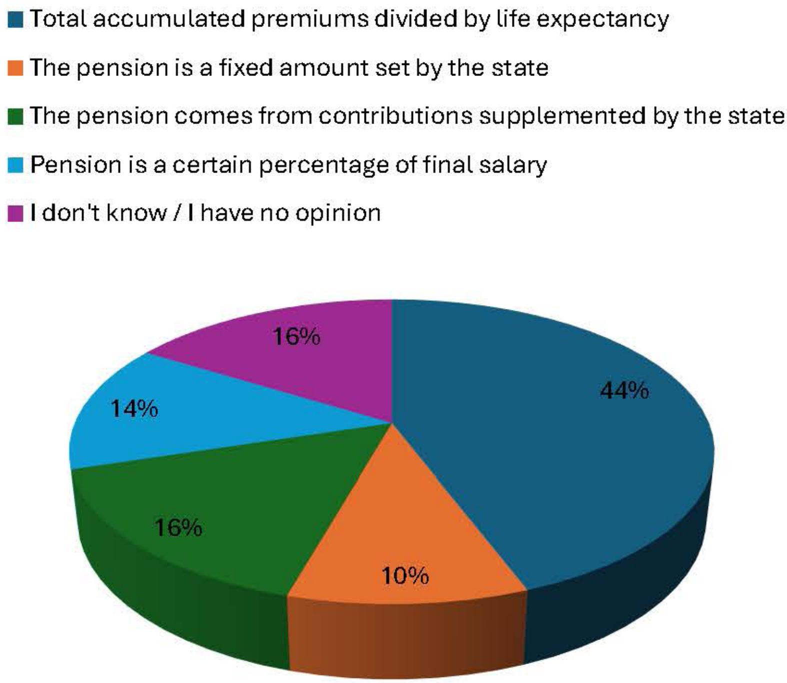
Figure 2. Knowledge of the criteria for acquiring the right to a Social Security pension from the Social Security Administration (ZUS)
Rysunek 2. Znajomość kryteriów nabycia prawa do emerytury z Zakładu Ubezpieczeń Społecznych (ZUS)



Source: developed by the author.

Understanding the criteria for acquiring the right to a Social Security pension is unsatisfactory, as the correct answer was given by 47.31% of respondents. A comparable proportion of respondents (45.62%) demonstrated a lack of awareness regarding their statutory entitlements. Only 6.77% of respondents acknowledged either a lack of knowledge or an absence of opinion on the matter.

Figure 3. Knowledge of how the Social Security pension is calculated
Rysunek 3. Wiedza na temat sposobu obliczania emerytury z ubezpieczenia społecznego

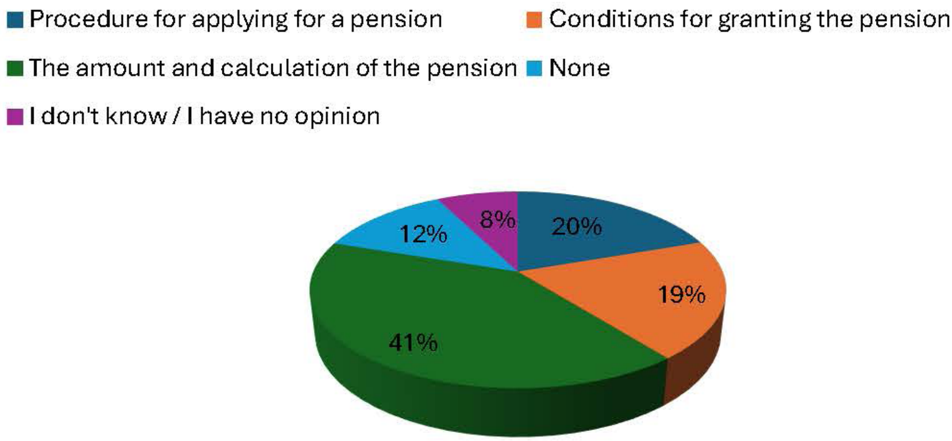


Source: developed by the author.

The survey shows that 45.22% of respondents understands the mechanisms of calculation of their pension, which implies the conclusion that they are aware of the difficult situation they will be in when they retire[14]. Nearly 40% of the respondents have inadequate knowledge on the subject, and 16.54% of them do not know the rules or do not have an opinion on the subject, which also indicates their level of ignorance in this regard.

[14] For more on this topic, see R. Garbiec, *Citizen Pension - Possibility or Necessity of Further Development of The Pension System in Poland*, [in:] *Sustainable Development in Management*, I. Krawczyk-Sokołowska (ed.), Częstochowa University of Technology Publishing House, Częstochowa 2023, pp. 85-101.

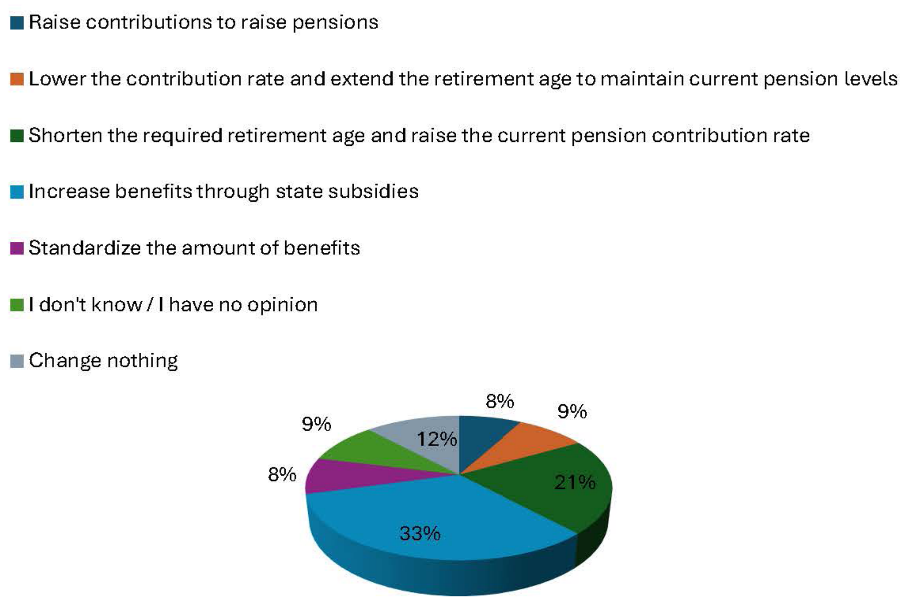
Figure 4. Extent of ignorance about the public pension system in Poland
Rysunek 4. Stopień nieznajomości systemu emerytur publicznych w Polsce



Source: developed by the author.

The survey showed that as many as 2/5 of respondents expressed a desire to learn more about the amount of their future pensions and the calculation methodology. One in five respondents would like to learn about the procedure for applying for a pension. A comparable proportion of respondents indicated a willingness to gain information regarding their entitlement to retirement benefit. Surprisingly enough, as many as 10.36% of respondents do not want to expand their knowledge on this subject to any extent. Even more troubling is that 7.57% of respondents don't know what to answer or do not have an opinion on this issue, which reflects a profound disinterest in this aspect of their post-retirement social functioning.

Figure 5. Proposed changes to the public pension system in Poland.
Rysunek 5. Proponowane zmiany w publicznym systemie emerytalnym w Polsce



Source: developed by the author.

Among the proposed changes to the pension system, respondents most frequently pointed to increasing the amount of benefits through state subsidies - 32.66% of indications. The next most commonly suggested reforms included lowering the statutory retirement age and increasing the current pension contribution rate, with 21.31% of indications. Other suggestions included: lowering the contribution rate and raising the retirement age to maintain pension rates unchanged – 8.77% of indications; unifying benefit rates – 8.17% of indications, and raising contribution rates to raise pension rates - 7.97% of indications. As many as 11.95% of respondents believe that nothing should be changed in the existing pension system.

SUMMARY

The ignorance of participants in the pension system in Poland regarding its functioning, and disinterest in reducing this knowledge gap is a consequence of inadequate management of knowledge concerning the system. Neither the existing level of understanding the pension system nor the respondents' motivation to improve it can be considered satisfactory. Expanding this knowledge base is inherently connected with pension-related education, which should be understood as encompassing both formal educational efforts within the school system and targeted actions undertaken by designated entities functioning within the broader pension infrastructure, such as the Social Security Administration[15].

The survey revealed that:

- Only one in two respondents is aware of how the Polish pension system is funded. Worryingly, one in ten respondents has no knowledge on the subject, which indicates a lack of financial education in Polish society.
- Only about half of the insured are familiar with the criteria for acquiring the right to a pension and the method for calculating its rate. Only one in 16 respondents admits to ignorance or lack of opinion regarding entitlement to the benefit, and one in eight does not know the rules for calculating the of the pension.
- As many as 2/5 of respondents expressed a desire to learn more about how their pensions are calculated. One in five respondents would like to learn about the procedure for applying for a pension. A similar proportion of respondents indicated a willingness to gain information regarding their entitlement to retirement benefit. One in ten respondents does not want to expand their knowledge on this subject to any extent. The ignorance of respondents on this subject is also surprising because one in fourteen respondents does not know what to answer, or has no opinion on the matter.
- One in three respondents would like to increase benefits through state subsidies. One in five respondents would like to reduce the required retirement age and increase the current pension contribution rate. One in eleven respondents would like to lower the contribution rate and extend the retirement age to maintain current pension levels, either to standardize benefits or raise contributions to increase pensions. One in nine respondents accepts the present solutions and believes that nothing should be changed.

The findings of the study clearly demonstrate the urgent need for coordinated, systemic efforts to enhance the level of knowledge among participants in the Polish pension system so that they can take informed and necessary actions to ensure a secure livelihood in senior age.

Accordingly, it is essential to motivate participants to enhance their knowledge, to offer them adequate educational opportunities, and regularly assess their level of understanding of the system.

In summary, the knowledge deficit among insured individuals regarding the operation of the public pension system in Poland determines their future poverty and social exclusion, and should also influence the structure of knowledge management regarding the public pension system.

[15] See R. Marczak, *Knowledge of Poles about the Pension System...*, p. 33-36; M. Pogonowski, *Educational Tasks of the Social Insurance Institution in the Context of the State of Knowledge about Social Insurance*, "Social Insurance. Teoria i Praktyka" 2014, no. 2.

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