

SOCIAL MEDIA IN MANUFACTURING COMPANIES – A CASE STUDY

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Purpose: The paper evaluates the effectiveness of social media communication in selected manufacturing companies from the Łódź Voivodeship, Poland. It examines platform choice, efficiency indicators, the role of sector-specific characteristics, and dominant content strategies.

Design/methodology/approach: A case study approach was applied to three enterprises from the food, cosmetics, and heavy industry sectors. Data were collected through semi-structured interviews with managers, observation of official profiles, and analysis of public and partial non-public metrics. A mixed-methods strategy integrated qualitative content analysis with quantitative indicators such as engagement rates and average interactions per post. Triangulation of sources, including advertising libraries and platform dashboards, ensured validity.

Findings: Results show sectoral variation. Company A emphasized educational and utilitarian content, amplified by a viral effect. Company B adopted visual storytelling and influencer promotion. Company C concentrated on LinkedIn to build credibility and reputation. Despite differences, all firms considered social media indispensable for visibility and competitiveness. Engagement proved uneven, often concentrated around single high-performing posts or seasonal campaigns, reflecting both potential and volatility of digital communication.

Research limitations/implications: The study was restricted to publicly accessible data and partial platform insights, without financial indicators such as ROI. Its cross-sectional scope limited the ability to assess long-term outcomes. Future research should include longitudinal studies, financial measures, and broader comparative contexts.

Practical implications: The research suggests that systematic, tailored strategies across platforms are more effective than reliance on viral success. SMEs should invest in analytical tools and digital competences to strengthen competitiveness and market presence.

Social implications: Social media was shown to enhance transparency, customer engagement, and credibility. It supports community building through educational content and reinforces corporate social responsibility, contributing to sustainable practices and stakeholder trust.

Originality/value: The paper fills a gap by analyzing manufacturing firms in a regional Polish context, rarely examined in prior research. Its novelty lies in combining qualitative and quantitative approaches, comparing three sectors, and providing practical recommendations for optimizing digital strategies.

Keywords: Social media, Manufacturing companies, Digital marketing, Case study.

Category of the paper: Research paper.

1. Introduction

The development of digital technologies over the past two decades has revolutionized the functioning of modern enterprises, imparting a new dimension to their activities in communication, marketing, and customer relationship management (Zachlod et al., 2022). Social media, one of the most significant innovations of the digital era, has become an essential tool in the digital transformation process of organizations (Boyd, Ellison, 2007). It has enabled not only reaching a broad audience but also conducting real-time, two-way communication. Platforms such as Facebook, Instagram, LinkedIn, TikTok, and YouTube offer companies a wide spectrum of opportunities—from brand image building (Luo et al., 2024) to analyzing consumer preferences (Karpińska-Krakowiak, 2016), as well as engaging customers in corporate activities through interactive, personalized, innovative (Siuda, 2018), and nostalgia-evoking content (Grębosz-Krawczyk et al., 2021). Consequently, social media has become an indispensable component of corporate marketing strategies (Gao et al., 2018).

Despite the awareness of social media's role in managing modern organizations, scientific literature still lacks studies focusing on its application in regional contexts, particularly in Poland. Most existing research concentrates either on analyzing social media in administrative units (Kotnis, 2023; Kowalik, 2021; Krawczyk, 2022; Woźniakowski, 2023) or global corporations and national trends (Ilieva & McPhearson, 2018), often neglecting the specificity of local enterprises, which frequently operate under different market conditions. Furthermore, small and medium-sized enterprises (SMEs) often face constraints in their social media activities due to limited resources—both financial and human—further complicating effective utilization (Braojos-Gomez et al., 2015). The Łódź Voivodeship, characterized by a diverse economic structure, represents an intriguing research area for studying the use of social media by local businesses (Cudny et al., 2020). As one of Poland's key industrial and commercial hubs, the region includes both long-established companies and modern tech enterprises. The challenges of the 21st century, such as globalization, changing consumer preferences, and the development of new technologies, compel local businesses to seek innovative solutions in marketing communication (Stasiak, 2016; Zasina, 2018).

Social media, due to its unique characteristics, can address these challenges by enabling businesses to establish and maintain relationships with customers, expand their operational reach, and build a competitive advantage (De Vries et al., 2012).

The objective of this article is to evaluate marketing communication activities conducted by selected enterprises on social media. The analysis encompasses three companies representing different economic sectors: a food company (Company A), a cosmetics company (Company B), and a technology company (Company C). The study focuses on assessing key performance indicators (KPIs), such as the reach of published content and user engagement. Based on the collected data, a comparative analysis of effectiveness across selected social media

platforms - Facebook, Instagram, LinkedIn, YouTube, and TikTok - is conducted. The article seeks to answer four main questions:

The study seeks to determine which social media platforms are employed by the analyzed enterprises and the strategic motivations underlying their selection, to identify which publicly accessible indicators provide the most accurate assessment of communication effectiveness, to explore how sector-specific characteristics shape the efficiency of digital communication, and to establish what types of content prevail in the strategies implemented by the examined companies

2. Literature Review

To obtain the latest research findings on the use of social media by manufacturing enterprises - ensuring they are both valuable and of high quality - a desk research study was conducted, including a systematic literature review. Two databases were selected for this purpose: Web of Science and EBSCO. On January 7, 2025, searches were performed in both databases using the following phrases: "Social Media" AND "Manufacturing Companies," "Social Media" AND "Manufacturing Companies" AND "Evaluation", "Social Media" AND "Industrial Enterprises", "Social Media" AND "Poland", "Social Media" AND "Poland" AND "Case Study", and "Social Media" AND "Łódź".

The searches were restricted using the following criteria:

- Type: Peer-reviewed academic journals.
- Language: English and Polish.
- Publication date: January 5, 2015 - January 5, 2025.

Subsequently, a quality-based selection of the materials was performed. The author analyzed the relevance of the identified studies to the subject of the article by reviewing abstracts and eliminating duplicates. During the research process, numerous articles were found to be inaccurately indexed due to their keywords. Specifically, some articles included the term "Social" but did not address social media as online platforms; rather, they focused on employee behavior-mainly in the context of COVID-19. These articles were excluded. Additionally, studies whose findings were unrelated to the present article-such as those focused on customer relationship management (CRM) rather than social media platforms-were also omitted. Other excluded studies concentrated exclusively on production-related aspects, Industry 4.0, industrial innovations, and technological issues without any reference to the topic of this article.

After analyzing the search results, the literature was supplemented with additional sources that were not retrieved in the database searches-either due to the absence of relevant keywords or the publication date - the "snowballing" method. The final results of the desk research are summarized in Table 1.

Table 1.
Desk Research Results for the Article

	EBSCO	Web of Science	Snowballing
Total Results	316	769	447
First Selection	85	45	67
Duplicate Removal		62	67
Final Results		129	

Source: Own elaboration.

2.1. The Role of Social Media in Marketing and Management

Social media have become an integral component of corporate communication strategies, encompassing both the B2C (Business to Client) and B2B (Business to Business) sectors (Hassani, Mosconi, 2022; Veldeman et al., 2017). Their primary advantage lies in the combination of global reach and personalized messaging, making them one of the most significant marketing tools for contemporary enterprises. Their role extends beyond brand image creation to include customer relationship management, marketing optimization, and audience engagement. In the context of manufacturing enterprises, social media facilitate effective outreach to customers, contractors, and business partners (Dao et al., 2024).

The literature highlights that one of the main challenges for this sector is the lack of adequately skilled personnel capable of effective communication and the limited involvement of managers in developing social media marketing strategies (Birkel, Müller, 2024; Conti et al., 2023; Milanzi, 2012). The technical complexity of products necessitates the adaptation of content to the specificities of the industry, posing a significant challenge in creating engaging and valuable digital content. These challenges are also observed in small and medium-sized enterprises, not only in the manufacturing sector but across various industries. Numerous studies have demonstrated that the ability to effectively manage social media directly influences business performance by increasing brand visibility, customer engagement, and market reach. Conversely, a lack of social media competencies significantly limits marketing potential, reducing competitive advantage and hindering adaptation to evolving consumer behaviors in the digital landscape (Kaczmarczyk, 2018; Müller et al., 2018).

A fundamental challenge for some enterprises is the very understanding of the concept of social media, as insufficient time has been dedicated to education in this domain. Kaplan and Haenlein (Kaplan, Haenlein, 2010) define social media as platforms enabling the creation, sharing, and interaction with user-generated content. Their primary advantage is the ability to merge global reach with message personalization, making them a crucial marketing tool for modern businesses. In the manufacturing sector, social media not only facilitate customer communication but also support B2B relationship building, enhance brand visibility, and enable more effective management of relationships with contractors.

One of the key aspects of effective social media utilization is user engagement, which constitutes a fundamental element of digital interactions. A systematic literature review reveals a rich body of research dedicated to this subject (Stepaniuk, 2024; Stopczyński, 2015; Tarapata,

2024; Zachurzok-Srebrny, 2024). Social media interactions influence brand perception, which translates into consumer loyalty and long-term engagement. Activities aimed at fostering engagement include content personalization, real-time interaction, and the use of analytical tools to optimize marketing campaigns.

Beyond user engagement, customer satisfaction remains a critical factor, serving as a metric for the effectiveness of digital interactions. Karpińska-Krakowiak (2016) (Karpińska-Krakowiak, 2016), Le Viet-Błaszczyk (Le Viet-Błaszczyk, Lerman, 2020), and (2020), as well as Samadi et al. (2016) (Samadi et al., 2016), indicate that customer satisfaction directly impacts brand loyalty, repeat purchases, and long-term engagement in the digital ecosystem. From the perspective of manufacturing enterprises, it is crucial to tailor content to industry-specific characteristics, considering the technical aspects of products and the needs of business customers.

Managing marketing activities on social media constitutes another significant research area. Effective social media marketing management is essential for brand positioning, audience engagement, and increasing the efficiency of promotional efforts (Bala et al., 2016; Caya, Mosconi, 2023). In the context of manufacturing enterprises, it is necessary to consider sector-specific characteristics, including the need to educate audiences about complex technological processes and the unique features of offered products. One of the latest trends in social media management by manufacturing firms is their use in educational initiatives, corporate social responsibility (CSR), and environmental sustainability. The literature highlights the social and ecological dimensions of social media utilization (Druffel, 2017; Imran et al., 2020). Furthermore, social media are analyzed in the context of health and psychological issues (Balcerowska, Brailovskaia, 2024) as well as digital education and communication (Al Saifi et al., 2016; Hahn et al., 2024; Malec et al., 2024). These studies suggest that social media can have a positive societal impact by raising ecological awareness, supporting educational initiatives, and increasing engagement in key social issues. Thus, the utilization of social media by manufacturing enterprises extends beyond traditional marketing functions to include relationship management, organizational policy shaping, and the implementation of pro-social and environmental initiatives. Modern firms that effectively integrate social media into their strategies not only enhance their market competitiveness but also contribute to broader goals in innovation, social responsibility, and education.

There are numerous social media platforms worldwide. Some emerged long ago and have since faded into obscurity, while others have sustained their relevance for over two decades. For the purposes of this study, five key social media platforms have been selected, on which manufacturing enterprises most frequently establish their presence.

Facebook, one of the oldest and most popular social media platforms, plays a significant role in companies' marketing activities (Forouzandeh et al., 2014). In Poland, the platform has 17.1 million users, making it one of the main communication tools for businesses (Kemp, 2024). Facebook offers various functionalities, including live streaming, posting texts, graphics,

and videos, as well as organizing events and advertising campaigns. Instagram, part of Meta's ecosystem (the owner of Facebook), is particularly attractive for visual industries such as fashion, cosmetics, or gastronomy (Legzdina, Sperlina, n.d.). With around 11 million users in Poland, Instagram ranks third among the most popular social media platforms. It offers various content formats, including photos, videos, Stories, and Reels, allowing for creative product and service presentation (Olejniczak, 2022; Stepaniuk, 2024). LinkedIn, as a platform connecting professionals, focuses on building business networks and promoting educational and expert content. With 6.7 million users in Poland, it is a crucial tool for companies operating in B2B and HR sectors (Deszczynski, 2018). By creating company pages, publishing articles, and industry content, LinkedIn enables building an expert image and strengthening brand positioning (Tsironis et al., 2022). The platform also stands out for its ability to conduct precisely targeted advertising campaigns, allowing companies to reach decision-makers and professionals in specific industries. TikTok, known for its short, engaging video formats, is gaining popularity in Poland, where it has 11.52 million users. This platform allows creative presentation of products and services through entertaining and inspiring content (Berg et al., 2023). YouTube, with 27.9 million users in Poland, remains the most popular video platform in the country. Its extensive possibilities for creating and distributing content make it essential for companies aiming to produce long, detailed video materials, such as tutorials, product reviews, or event coverage (Smith et al., 2012).

The literature points to several major functions of social media that can be used by companies - including manufacturing. Understanding them and using them appropriately is key to achieving the intended results. These are:

- Building brand awareness: Social media enables companies to reach a wide audience, increasing brand recognition (Wrona, 2012). Regular content publication helps build brand identity and shape consumer perceptions (Kitano et al., 2021).
- Two-way communication: Social media offers real-time interactions, allowing companies to promptly respond to customer needs and build lasting relationships (Klein, 2022; Skrobich, 2016; Zhang, Peng, 2024).
- Analyzing customer preferences: Advanced analytics tools enable companies to collect user behavior data, facilitating better alignment of marketing strategies (Dao et al., 2024; Gregor, Kaczorowska-Spsychalska, 2016; Karpińska-Krakowiak, 2016).
- Creating engagement: Interactive content, such as contests, polls, or live streams, increases audience engagement, fostering loyalty to the brand (Androniceanu et al., 2020; Chin et al., 2018; Karpińska-Krakowiak, Modliński, 2018; Tran, Rudolf, 2022).
- Targeting and personalization: Social media platform algorithms enable precise targeting of specific audience groups based on interests, age, location, and other demographic data (Jabłońska, 2017; Pereira et al., 2024).

Beyond merely understanding the potential applications of social media, it is crucial to identify the parameters that allow for an evaluation of their utilization. Evaluation of social media activities should be based on measurable indicators. The literature identifies several key indicators for comprehensive marketing analysis. Three subgroups of these indicators will be utilized in this research to answer the posed questions:

- Reach: Defined as the number of unique accounts exposed to specific content on a platform, it serves as a key indicator of communication effectiveness in social media. However, it is essential to note that reach does not equate to the number of individuals exposed, as a single person may own multiple accounts on the same platform (Tomasik, Marona, 2023). Consequently, reach reflects only the number of unique accounts rather than users in the strict sense. This indicator is fundamental for assessing the visibility of published materials and analyzing the potential impact of communication (Kietzmann et al., 2011).
- Impressions: Referring to the number of times specific content is shown to users, impressions can be defined differently depending on the platform's specifics. All definitions share a common reference to the exposure of the content, regardless of user interaction. Notably, the same content may be shown multiple times to the same account, introducing a distinction between reach and impressions. The relationship between these indicators is described through the concept of frequency, indicating the average number of times the content is shown to a single user. In the literature, frequency plays a significant role in analyzing campaign effectiveness, influencing both brand awareness and potential audience reactions (Grębosz et al., 2016).
- Engagement: Reflecting the level of user interaction with published content, engagement includes commonly analyzed forms such as reactions, comments (Baj-Rogowska, Sikorski, 2023), and shares, varying depending on the platform's specificity. High engagement levels indicate the effectiveness of published content in attracting user attention and activating them. As Kotler (Kotler, Keller, 2015) emphasizes, engagement plays a crucial role in building relationships between the brand and its audience, serving not only as a content effectiveness indicator but also as a critical element of communication strategy. Analyzing engagement levels allows for better understanding of user preferences and behavior, enabling more effective content customization to meet audience needs.

Social media platform algorithms are among the most important factors determining marketing effectiveness. Each platform utilizes a unique set of rules influencing the content displayed to users. These mechanisms analyze hundreds of variables, such as user preferences, interaction frequency, content shared by friends, or paid advertising results (Brady et al., 2023). Facebook and Instagram (Meta): Algorithms prioritize content with high engagement levels, such as likes, comments, and shares. Video content and posts generating real-time interactions are favored (Kaplan, Haenlein, 2010). TikTok's For You Page (FYP) algorithm analyzes user

behavior, including time spent watching videos, number of repetitions, and reactions (e.g., likes and comments). TikTok promotes viral content, offering small businesses the opportunity to achieve significant reach without substantial financial investments (Gómez Sánchez et al., 2023). LinkedIn supports content optimized for professional and expert publications. Longer articles, infographics, and posts adding value in B2B segments are preferred (Davis et al., 2020). For YouTube, maximizing user time on the platform and ensuring displayed content aligns with user interests are crucial (Yesilada, Lewandowsky, 2022). Key factors include total time spent watching a video (Khan, 2017), engagement, and the click-through rate (CTR) for thumbnails relative to impressions (Arthurs et al., 2018).

Understanding algorithms, even approximately, provides companies with guidelines for action, showcasing which types of content are most preferred by platforms. Nevertheless, content creation remains the responsibility of promoting companies (or entities hired for this purpose). Engaging content lies at the heart of effective social media strategies. Research indicates that content evoking emotions, provoking reactions, and encouraging interaction is significantly more effective than purely informational content without emotional impact (Ashley, Tuten, 2015). Three main groups of elements contribute to engaging publications:

- Storytelling: Building narratives appealing to audience emotions is a crucial aspect of engaging content. Companies presenting authentic stories, such as customer experiences or behind-the-scenes insights, build greater trust and loyalty (Júnior et al., 2023).
- Multimedia: Research shows that visual content, such as images, infographics, and videos, generates 150% more interactions than textual content (Tafesse, Wien, 2017). In particular, videos have viral potential, reaching a wide audience with minimal advertising budgets.
- Interactivity: Polls, contests, live broadcasts, and other interactive forms capture attention and encourage active user participation (Nie et al., 2023).

Engaging content directly impacts performance indicators, such as reach, impressions, time spent on the platform, or customer loyalty. Companies employing storytelling and interactive content achieve higher sales results and greater brand recognition (Ashley, Tuten, 2015).

2.2. Effectiveness, Efficiency, and Performance: Foundations for Evaluation

Managing communication, particularly in the area of social media marketing activities, requires a clear definition of effectiveness, efficiency, and performance, which enable the evaluation of key actions. Effectiveness refers to achieving intended goals regardless of the resources and means used, which, according to Kotarbiński (Kotarbiński, 1955), constitutes the fundamental determinant of success. Griffin (Griffin, 2017) associates effectiveness with “making the right decisions and effectively implementing them.” Pięjko (Pięjko, 1976), on the other hand, emphasizes the purposefulness of actions, determining effectiveness as the alignment of results with intended objectives. Efficiency, as defined by Zieleniewski (Zieleniewski, 1976), involves optimizing the use of available resources, emphasizing

rationality and economy. Performance, integrating both elements, allows for assessing success in achieving goals with minimal expenditure (Holstein-Beck, 1987). It is essential to recognize that the success of marketing activities often depends on simultaneously achieving defined objectives, effectively allocating resources, and responding to dynamically changing user preferences (Pócs et al., 2021). Actions taken by enterprises on social media largely depend on platform algorithms, which determine content visibility (Brady et al., 2023). Therefore, a thorough analysis, considering operational and strategic efficiency, can be valuable in evaluating whether social media activities yield the desired results.

3. Methods

The primary objective of this research was to evaluate the effectiveness of communication activities conducted in social media by selected manufacturing companies from the Łódź Province in Poland. The analysis was based on the observation of the activity of three firms representing different sectors: food, cosmetics, and heavy industry. Company A is a manufacturing enterprise from the food sector, located in the Łódź Voivodeship, specializing in accessories and components for home food production. Its product portfolio focuses on solutions supporting, among others, bread baking, liqueur preparation, and food preservation, designed for practical application by individual consumers. Company B is a Polish cosmetics manufacturer and brand with over 25 years of experience. It specializes in facial and body care products, make-up, as well as hair coloring and hair care. The company operates internationally, reaching more than 60 markets worldwide. Its business model combines the sale of proprietary brands (B2C) with contract manufacturing services (B2B). Company C, representing the heavy and technology industry, employs a markedly different approach to social media than consumer-oriented enterprises. While B2C firms focus on generating broad reach and engaging audiences through visual and emotional content, Company C's primary objectives are to build credibility, secure institutional legitimacy, and showcase expert competences.

This allowed for the identification of diverse approaches to digital communication shaped by sectoral characteristics. The study focused on publicly available data published on the official company profiles in social media platforms (Facebook, Instagram, LinkedIn, TikTok and YouTube), including posting frequency, user interactions, engagement rate in relation to follower bases, and video viewership where such information was publicly accessible. The research also incorporated an analysis of the structure of published content, distinguishing between educational, image-building, and sales-oriented materials, as well as between various content formats such as graphics, videos, and text-based posts.

The study was designed to answer four key research questions:

1. which social media platforms are used by the analyzed enterprises and what are the reasons for their selection?
2. which publicly available indicators most accurately reflect the effectiveness of communication activities?
3. how industry characteristics influence communication efficiency?
4. what types of content dominate in the strategies of the examined companies?

In order to provide answers to these questions, the case study method was adopted, which enables an in-depth characterization of organizations and the identification of specific activity patterns. The choice of this method was motivated by the need to capture the complex context of digital communication, which would be difficult to reconstruct solely by means of quantitative techniques (Apanowicz, 2000, 2002; Czakon, 2015; Eisenhardt, Graebner, 2007; Strumińska-Kutra, Koładkiewicz, 2018). The research process consisted of several stages. In the first phase, semi-structured interviews were carried out with decision-makers responsible for social media activities in the analyzed companies. The aim was to gain an understanding of the organizational perspective and to uncover the vision and strategy guiding their social media presence. The use of interviews is consistent with the recommendations of qualitative marketing research, which stresses their ability to uncover motivations and attitudes shaping consumer-brand relations (Hall, 2019; Maison, 2018). In parallel, an inventory of the social media platforms employed by the companies was performed, and data were collected on the number of followers, the number of posts published during the analyzed period, and user interactions with content. Subsequently, a qualitative content analysis was conducted, classifying posts according to their communicative functions and formats, in line with established methodological frameworks (Krippendorff, 2019; Kaczmarczyk, 2011). The quantitative data were standardized using relative indicators such as the average number of interactions per post and the engagement rate calculated as the ratio of reactions, comments, and shares to the total number of followers. This standardization made it possible to perform comparative analyses both across companies and across platforms. It highlighted sectoral differences and similarities in applied strategies.

The analysis was descriptive and comparative in nature and was performed using data triangulation, which combined direct observation of company profiles and verification of activity via publicly available advertising libraries. This triangulated approach strengthened the validity of the findings and reduced the risk of bias arising from a unilateral treatment of empirical material (Dwivedi et al., 2021; Li et al., 2023; Lipowski et al., 2018). The selection of companies was purposeful, motivated by both sectoral diversity and accessibility considerations, since the participating enterprises granted full consent for the study. Such purposive sampling is consistent with methodological standards in marketing and management research (Apanowicz, 2002; Kaczmarczyk, 2014). It is important to note that the study is subject to certain limitations, primarily related to the lack of access to complete internal

datasets such as results of paid advertising campaigns or financial indicators like ROI or ROAS. For this reason, the assessment of effectiveness was restricted to the dimension visible in the public domain, namely user interactions and content characteristics. The literature emphasizes that the mere volume of likes, comments, or shares does not allow for an objective evaluation of communication effectiveness, as these values are strongly dependent on the size of the community surrounding a given profile. For this reason, empirical research widely applies the Engagement Rate (ER), which normalizes the number of interactions in relation to the follower base (Trunfio, Rossi, 2021). This method enables comparisons of effectiveness both across different platforms and between enterprises with varying scales of digital presence. In its simplest form, the indicator is defined as follows (1):

$$ER = \frac{\text{Total Interactions (Reactions + Comments + Shares)}}{\text{Number of Followers}} * 100\% \quad (1)$$

Such a defined indicator reflects the proportion of the community that actively responds to published content and is widely applied in comparative analyses of social media communication effectiveness in both B2C and B2B contexts. The analysis did not capture long-term outcomes, since the study adopted a cross-sectional approach limited to a twelve-month period (January - December 2023). Despite these limitations, the chosen methodology enabled a reliable reconstruction of the communication strategies of the enterprises and the identification of the key factors determining the effectiveness of their social media presence.

4. Research results

In order to ensure a transparent and systematic presentation of the empirical material, all collected data have been compiled in the tables below. These datasets summarize the social media activities of the analyzed enterprises across various platforms, including Facebook (Table 2), Instagram (Table 3), TikTok (Table 4), and YouTube (Table 5). The tables include key indicators such as the number of posts, user reactions, comments, shares, and views, as well as calculated engagement rates. Such a standardized presentation facilitates comparative analysis across companies and platforms, and provides a clear empirical basis for further interpretation. Table 1 provides an overview of the monthly communication patterns of the analyzed companies on Facebook. It highlights the intensity of posting activity and the scale of user engagement, offering a basis for comparing sector-specific approaches to the same platform.

Table 2.*Facebook Activity of Companies A, B, and C (Posts, Reactions, Comments, Shares)*

Month	Company A				Company B				Company C			
	Number of Posts	Total Reactions	Total Comments	Total Shares	Number of Posts	Total Reactions	Total Comments	Total Shares	Number of Posts	Total Reactions	Total Comments	Total Shares
January	12	253	6	24	16	675	71	44	2	35	1	1
February	9	116	0	6	19	764	23	34	7	93	0	0
March	9	122	20	5	20	1187	124	108	14	188	0	0
April	10	115	8	3	23	1433	170	107	12	107	0	5
May	9	82	12	8	29	1911	340	129	8	91	1	2
June	8	16 153	249	994	24	1768	266	105	5	71	0	2
July	10	273	6	17	27	1944	142	149	8	145	2	10
August	9	173	21	6	23	2167	303	58	14	131	3	5
September	3	46	1	9	25	2344	230	114	17	170	1	3
October	10	132	18	22	29	2995	651	105	9	64	0	0
November	16	296	3	36	30	1865	202	36	6	61	1	1
December	17	308	12	18	35	3099	282	122	9	103	2	2
Total	122	18 069	356	1148	300	22152	2804	1111	111	1259	11	31

Source: Own elaboration based on data from Facebook.

The results indicate that engagement outcomes are shaped more by the logic of content strategy than by posting frequency. Facebook activity illustrates that the ability to stimulate user interaction depends on the alignment of content with audience expectations rather than on the volume of publications. Table 2 summarizes the use of Instagram by Companies A and B, capturing their monthly posting activity and audience responses. The dataset illustrates how a visually oriented platform supports branding strategies in different industries.

Table 3.*Instagram Activity of Companies A and B (Posts, Reactions, Comments)*

Month	Company A			Company B		
	Number of Posts	Total Reactions	Total Comments	Number of Posts	Total Reactions	Total Comments
January	10	345	2	11	2575	130
February	7	309	2	11	2034	114
March	13	5404	12	10	1870	114
April	5	19825	122	14	4167	160
May	11	4618	16	16	4576	180
June	4	572	11	12	3378	109
July	6	3305	30	13	4389	204
August	4	1123	9	10	2798	84
September	0	0	0	12	3323	86
October	11	267	3	12	2840	112
November	12	411	7	13	3192	164
December	20	444	14	17	3370	142
Total	103	36623	228	151	38512	1599

Source: Author's elaboration based on data from Instagram.

The findings suggest that Instagram functions mainly as a tool for visual identity building. Engagement is characterized by seasonal peaks and campaign-driven effects, showing that content timing and aesthetics play a greater role than numerical activity alone. Table 3 presents the presence of Companies A and B on TikTok, focusing on publishing frequency, audience reach, and forms of interaction. This perspective allows for an assessment of how short video formats influence communication outcomes.

Table 4.*TikTok Activity of Companies A and B (Views, Reactions, Comments, Saves)*

Month	Company A					Company B				
	Number of Posts	Total Views	Total Reactions	Total Comments	Total Saves	Number of Posts	Total Views	Total Reactions	Total Comments	Total Saves
January	4	301 065	9 301	124	3 233	9	24 686	404	25	110
February	5	426 337	10 706	204	2 798	10	11 632	344	22	52
March	11	419 583	7 271	229	2 121	11	31 575	4328	112	63
April	5	4 149 500	204 433	1 773	42 308	9	16 473	352	24	42
May	5	2 864 200	121 713	785	17 709	9	12 345	321	21	38
June	3	1 259 600	50 929	417	10 969	15	96 317	865	34	64
July	6	965 489	29 509	301	7 149	10	225 957	1401	32	44
August	2	278 100	6 081	216	2 302	12	345 921	1300	29	86
September	1	15 700	614	8	111	12	293 265	2201	51	42
October	1	1 725	15	0	2	15	636 027	2999	156	94
November	1	1 744	9	0	0	10	58 804	390	23	37
December	3	146 461	1 287	79	513	10	163 142	1750	52	28
Total	47	10 829 504	441868	4136	89215	132	1 916 144	16655	581	700

Source: Own elaboration based on data from TikTok.

The results highlight the volatility of TikTok performance. Engagement is strongly dependent on a limited number of highly effective materials, while most content attracts moderate attention. The platform demonstrates the importance of trend adaptation and creativity in driving user activity. Table 4 compiles the activity of all three companies on YouTube, including posting patterns and levels of user interaction. It provides a basis for evaluating YouTube's function in long-form and educational communication.

Table 5.*YouTube Activity of Companies A, B, and C (Views, Reactions, Comments)*

Month	Company A				Company B				Company C			
	Number of Posts	Total Views	Total Reactions	Total Comments	Number of Posts	Total Views	Total Reactions	Total Comments	Number of Posts	Total Views	Total Reactions	Total Comments
January	3	9 227	398	53	5	2462	14	1	1	35163	11	0
February	2	468 000	6 000	122	0	0	0	0	1	26627	6	0
March	6	96 700	1 657	30	0	0	0	0	0	0	0	0
April	3	265 300	5 779	107	11	2326	8	1	1	1068	10	0
May	1	389 000	12 000	93	4	42 830	3	1	0	0	0	0
June	2	32 850	1 130	21	0	0	0	0	3	12241	12	0
July	4	1 392 148	30 831	638	5	834	5	0	2	756	10	0
August	3	70 623	2 257	61	0	0	0	0	6	263	2	0
September	0	0	0	0	3	336	1	0	0	0	0	0
October	1	2 200	69	2	1	285	1	0	0	0	0	0
November	2	4 500	77	4	3	285	4	1	0	0	0	0
December	3	6 465	146	4	1	118	0	0	0	0	0	0
Total	30	2 737 013	60 344	1135	33	49476	36	4	14	76 118	51	0

Source: Own elaboration based on data from YouTube.

The outcomes confirm that YouTube acts mainly as a supporting channel. While individual materials can generate visibility, long-term engagement requires strategic commitment and consistent positioning. Without such effort, the platform tends to serve as a passive content repository.

The three analyzed enterprises pursued markedly different strategies of social media communication, which directly stemmed from the characteristics of their respective industries. Company A, operating in the food sector, concentrated its presence primarily on Facebook, where it gathered 23,282 followers and published 122 posts. The content was predominantly educational and utilitarian in nature, including tutorials and video materials demonstrating practical applications of products (bread baking, liqueur preparation, homemade preserves). Strictly sales-oriented and image-building content appeared only sporadically. A single viral video published in July generated 2.38 million views, representing 82% of the total annual reach (2.9 million). This exceptional result overshadowed the performance of other posts. This mechanism also translated into the dynamics of follower growth. In the same month the profile expanded by 8600 new followers, representing 83% of the annual increase. In the remaining months, growth amounted only to several dozen individuals, while average user activity remained low: the median was 13 reactions, 0 comments, and 1 share per post. The only exception was June, when the viral video generated more than 2000 reactions to a single post. A similar lack of systematicity characterized Instagram, where the company gathered 10,900 followers and published 103 posts, generating a total of 36,979 interactions (an average of 358 per post). Annual reach amounted to 810,900, with as much as 68% concentrated in May (552,700), whereas in the weakest months values fell to the level of 7900. User activity was almost exclusively limited to reactions ($\approx 99\%$), while comments accounted for barely 1% of all interactions. The most important platform for this company, however, was TikTok, where 47 published videos obtained 10.83 million views and 535,200 interactions, averaging 11,400 interactions per video. The profile had 67,500 followers and 443,700 likes. April and May alone generated around 65% of annual views. Including June and July, the four months together accounted for more than 85% of the total. Engagement was dominated by reactions (82.6%), followed by saves (16.7%), while comments played only a negligible role (0.8%). YouTube functioned as an educational and instructional channel - 30 videos generated 2.74 million views and 61,500 interactions, averaging 91,000 views and 2000 interactions per video. The best results were achieved in July (1.39 million views, $\approx 51\%$ of the annual outcome), confirming the concentration of effects in single pieces of content. In contrast, presence on LinkedIn was marginal - the profile had 1041 followers and 181 declared employees, while the content had an expert and employer branding character, without the support of paid campaigns. Company B, representing the cosmetics sector, conducted a more systematic and diversified communication. On Facebook (81,100 fans), 300 posts were published, corresponding to an average of 25 entries per month. These posts generated 22,152 reactions, 2804 comments, and 1111 shares, yielding 26,067 interactions in total (87 per post on average). The highest engagement was recorded in October (129 per post), the lowest in February (43 per post), while the median indicated that a typical post generated 69 reactions, 5 comments, and 2 shares. The interaction structure confirmed the dominance of reactions (85%). These activities were strongly supported by 261 paid campaigns in the Meta ecosystem - 210 on Facebook,

150 on Instagram, as well as additionally in Messenger (83) and Audience Network (93). On Instagram (38,300 followers), the company published 151 posts, which generated 38,512 reactions and 1599 comments (40,111 interactions in total, 266 per post on average). The best results were achieved in July (353 per post) and the weakest in February (195 per post), with the highest engagement occurring during product launch periods (April-May). Reactions constituted 96% of all interactions, whereas comments played only a marginal role. On LinkedIn, the profile gathered 4,937 followers and 148 employees. Corporate, HR, and employer branding content was published, while paid campaigns appeared only three times. TikTok constituted an important element of the strategy - the profile had 67,500 followers and 443,700 likes, while 132 published videos generated 1.92 million views and 17,900 interactions (136 per post on average). The median results were low (943 views and 126 likes per post), proving that most content achieved moderate reach, with annual results boosted by a few standout materials. A significant role was played by 56 advertising campaigns on TikTok, which reached 6.28 million unique users and accounted for \approx 38% of all views. YouTube was the least effective channel. The profile has existed since 2014 (487 videos, 9.07 million total views), in the period under review only 33 videos were published, generating 49,500 views (1500 per video on average). Results were concentrated in May (42,800 views, \approx 87% of the yearly total), but user activity was minimal - 36 reactions and 4 comments. Company C, from the heavy industry and technology sector, conducted communication typical of B2B, focusing on professional image-building and credibility. On Facebook (80,000 global followers, 111 posts on the Polish channel), the company recorded 1,259 reactions, 11 comments, and 31 shares (1301 interactions in total, 11.7 per post on average) - in Polish profile context. The highest results were achieved in July (19.6 per post) and the lowest in October (7.1 per post). Annual reach amounted to 245,600, with July and August accounting for 59% of the total. Annual follower growth was minimal - only 137 individuals (0.17% of the base). The company did not maintain accounts on Instagram or TikTok. The main communication channel was LinkedIn, where the global profile gathered 303,102 followers and 11,692 employees linked to the account, including 235 from Poland (39 in managerial and directorial positions). The strategy encompassed corporate content (projects, certifications), recruitment, and expert-product materials, with multilingual communication (English and occasionally Polish) as a distinctive feature. YouTube played a marginal role - 14 videos were published, generating 76,100 views and only 51 reactions without comments. Performance was uneven: over 80% of annual views came from January and February. By contrast, in August six published videos attracted only 263 views in total (\approx 44 per video). The average interaction rate amounted to merely 3.6 per post, confirming that the channel served solely an informational and archival function.

The analyses and interviews conducted allowed for the identification of characteristic patterns of social media communication in the studied enterprises. On this basis, it became possible to provide answers to the research questions that constituted the starting point of this

study. The conclusions are presented below in accordance with the adopted structure of the research problems. The core of Company A's ecosystem includes Facebook, Instagram, TikTok, and YouTube, with functions distributed across channels. Facebook served as the primary medium for practical and instructional content (122 posts; 23,282 followers; annual reach \approx 2.89 million, with a strong peak in July confirming the incidental nature of a viral effect). Instagram functioned as a supplementary platform (10,900 followers; 103 posts; total reach \approx 811,000), TikTok was used for short DIY formats (47 videos; 10.83 million views, with a significant surge between April and May, again confirming the incidental nature of viral exposure), while YouTube focused on educational and instructional materials (30 videos; 2.74 million views; entirely organic activity). The main motivation for this choice was the educational function. As the marketing manager stated: *This is not advertising, but real assistance.* All activities aimed to build consumer trust and loyalty toward utilitarian products. Platforms were selected according to their format (short videos vs. longer tutorials) and the expected behaviors of their audiences.

Company B (cosmetics) also developed a multi-channel ecosystem with a strong presence on Facebook (300 posts; 26,067 total interactions), Instagram (38,300 followers; 151 posts; 40,111 interactions), TikTok (132 videos; 1.92 million views; 17,936 interactions), and YouTube (33 videos; 49,476 views). Additionally, broad paid support was implemented across Meta platforms (261 campaigns). The rationale for prioritizing Instagram and TikTok lies in the visual and emotional nature of communication and the use of influencers. As the marketing director emphasized: *This is where our customers live - they seek inspiration and storytelling.* LinkedIn played a complementary role, focused on corporate and HR communication. Company C (heavy industry) maintained a narrow platform profile, aligned with B2B objectives. Key channels were LinkedIn (global profile with 303,102 followers, 11,692 linked employees; 235 from Poland) and Facebook (111 posts on the Poland-dedicated channel; 1,301 interactions; annual reach of 245,600). The company deliberately avoided Instagram and TikTok. YouTube played only a marginal role (14 videos, 76,118 views, \approx 81% of annual traffic concentrated in January - February), functioning mainly as a content archive. As the marketing manager summarized, the company's actions were guided by a precise goal: *What matters is reaching decision-makers and building expert legitimacy, not mass reach.* Across all three enterprises, the necessity of social media presence was strongly emphasized, perceived as a prerequisite of credibility and market visibility: *It is not about whether it is profitable - it is a necessity.* Platform choices were thus subordinated to function, target group, and the specific affordances of individual media.

The assessment of social media effectiveness was based on a triangulated approach that combined qualitative content analysis with the verification of quantitative indicators such as engagement rate, average number of interactions per post, reach, follower growth, and the share of comments and shares in total interactions. The selection of these indicators was dictated by the limitations of the study. Only publicly available data and partial insights from analytics

panels were accessible, without full results of paid campaigns (ROI, ROAS) or financial outcomes.

As shown in Table 6. Company A reports the highest Engagement Rate values (793% on TikTok, 339% on Instagram, 322% on YouTube). These outcomes are largely the result of isolated viral content. The median interaction level on Facebook (13 reactions, 0 comments, 1 share) demonstrates that average user activity was negligible. This implies that spectacular results were incidental and do not confirm a sustained ability to engage the community. Critically, it should be noted that this strategy relies more on chance than on a consistent content management model. Company B is characterized by greater stability (105% on Instagram, 446% on TikTok), supported by regular posting and paid campaigns. Nonetheless, the low level of interaction on YouTube (ER \approx 1%) and the moderate performance on Facebook (32%) indicate a lack of cross-platform consistency and the inability to fully exploit the potential of multi-channel communication. A further critical observation is the dominance of simple reactions over comments, which reduces communication to passive content consumption. Company C performs the weakest in quantitative terms (Facebook ER 1.6%; YouTube 35.7% based on a subscriber base of only 143). The relatively high percentages are solely an artefact of the small sample size, rendering them unreliable. The absence from Instagram and TikTok, along with marginal YouTube activity, significantly limits brand visibility, and reliance on the qualitative value of a few individual comments cannot substitute for systematic and scalable communication.

Table 6.

Engagement Rate by Platform (Facebook, Instagram, TikTok, YouTube)

Platform	Company A	Company B	Company C
Facebook	189 %	32 %	1,60 %
Instagram	339 %	105 %	-
TikTok	793 %	446 %	-
YouTube	322 %	1 %	35,7 %

Source: Own elaboration.

In summary, all three strategies reveal significant shortcomings: Company A is dependent on viral content, Company B relies excessively on paid promotion and generates predominantly passive engagement, while Company C limits its activities to reputational efforts without achieving real visibility. As a result, none of the analyzed organizations presents a communication model that could be regarded as sustainable, coherent, and strategically comprehensive. It should also be emphasized that the Engagement Rate represents only one indicator of effectiveness, and a complete assessment can be achieved only when financial outcomes are considered. The present results are based solely on visible metrics, without examining their translation into sales, new customer acquisition, or business inquiries.

Industry characteristics fundamentally shape both the logic of social media presence and the actual effectiveness of communication activities. In consumer-oriented sectors (B2C), effectiveness is determined by the ability to generate reach and emotionally engage audiences.

In industrial sectors (B2B) it depends on building reputation and fostering qualitative relationships with narrow groups of stakeholders. In the food industry (Company A), the core characteristic lies in the functional nature of products, which translates into the dominance of educational and instructional content. Communication effectiveness here results from the practical utility of published materials—audiences engage when they perceive real value (e.g., recipes, guides, tutorials). In the cosmetics industry (Company B), aesthetics and lifestyle serve as integral elements of the offering. Communication becomes a vehicle for visual narratives, in which products are presented in an aspirational context. However, a defining feature of this sector is the predominance of simple reactions (likes), while comments and discursive content remain limited. Thus, communication generates engagement, but in a predominantly superficial form. In the heavy industry (Company C), sectoral characteristics define an entirely different logic. Products are highly specialized, and audiences are narrow and decision-making oriented. Communication effectiveness is not measured by the number of reactions but by reaching the right individuals and building institutional credibility. Consequently, expert and corporate content dominates. In this case, algorithms or seasonality are of minor relevance—effectiveness is defined by the quality of interactions and the reputational nature of messaging. In summary, industry characteristics directly determine communication effectiveness. In B2C sectors, the usefulness and attractiveness of content drive engagement scale. In B2B, the specialized character of products and processes means that effectiveness depends on qualitative access to decision-makers and the reinforcement of expert reputation.

In the case of Company A, the dominant role is played by practical content. These include primarily instructional recordings, recipes, and visual demonstrations of how products can be used in everyday household activities. Such an approach not only strengthens the brand's credibility but also facilitates the creation of a community of users centered around a specific lifestyle. Company B builds its communication on emotion- and aesthetics-driven messages. The most frequent materials are visual content related to skincare, fashion, and styling, complemented by narratives that construct an aspirational image of the brand. A significant role is played by collaborations with public figures and influencers, who present products in natural contexts, highlighting their attractiveness and distinctive character. By contrast, Company C emphasizes specialized and image-oriented materials. Publications focus primarily on technological innovations, sustainability projects, and corporate reports. Such content is not designed to engage a broad audience but rather to reinforce the company's position as a credible business partner and an organization with an established reputation.

5. Discussion

Research conducted among selected manufacturing companies from the Łódź Voivodeship demonstrated that the effectiveness of social media communication is determined by sectoral conditions, organizational resources, and the manner of content creation. These findings partly confirm the literature but also problematize and challenge it in several respects. Dwivedi et al. (Dwivedi et al., 2021) indicate that in B2B contexts, social media presence is primarily institutional. The results corroborate this view: managers consistently emphasized that absence from social platforms equates to a loss of visibility and credibility. However, the experience of Company C illustrates that institutionalization alone does not translate into effectiveness - the company's Facebook and YouTube profiles recorded minimal interaction. This shows that the obligation of digital presence described by Kaplan and Haenlein (Kaplan, Haenlein, 2020) is not synonymous with communicative success. In the case of Company A, whose activities were based on educational content, the findings did not unequivocally confirm Hollebeek and Macky's (Hollebeek, Macky, 2019) thesis that content marketing gradually builds trust. Annual outcomes were determined by a single viral piece of content, proving that algorithms and incidental spikes are as influential as long-term strategies. This partially corresponds with the observations of de Vries, Gensler and Leeflang (de Vries et al., 2017), yet simultaneously undermines Kowalska's (Kowalska, 2023) vision of linear community-building through education. Company B, representing the cosmetics industry, confirmed the importance of visual narratives and influencers highlighted by Casaló, Flavián and Ibáñez-Sánchez (Casaló et al., 2020) and Djafarova and Trofimenko (Djafarova, Trofimenko, 2019). The dominance of simple reactions indicates that storytelling (Stopczyńska, 2016) and authenticity do not always result in deep interaction. In practice, communication was superficial, contradicting literature that assumes such content generates lasting ties. In the industrial sector (Company C), theory also found only partial confirmation. Iankova et al. (Iankova et al., 2019) and Lashgari et al. (Lashgari et al., 2018) stress that in B2B contexts, the quality of interactions is decisive. Yet our data reveal that even with an expert tone and professional image, communication remained marginal and interactions were almost absent. This suggests that the reputational role of social media, discussed by Mazurek-Łopacińska and Sobocińska (Mazurek-Łopacińska, Sobocińska, 2022), is not always borne out in practice - especially in firms with limited marketing resources operating in local markets. The issue of regularity likewise requires clarification. Laradi et al. (Laradi et al., 2023) and Lamberton & Stephen (Lamberton, Stephen, 2016) argue that systematic activity strengthens brand equity and trust. However, in Company B, despite high posting regularity, interactions were predominantly superficial. This suggests that regularity is a necessary but insufficient condition. The lack of resources, highlighted by managers from Companies A and C, supports the observations of Rydzewska and Szwajca (Rydzewska, Szwajca, 2024) regarding personnel and technological barriers in

SMEs. At this point, it becomes evident that the effectiveness of social media communication in manufacturing enterprises cannot be fully explained by frequency or visibility indicators alone but must be understood through the prism of relationship marketing and value communication theories. The analyzed companies demonstrated that what truly drives engagement is not the volume of messages but the ability to deliver perceived value - functional, emotional, or epistemic - corresponding to the audience's expectations. In this respect, Company A exemplified functional value communication (utility and education), Company B emotional and symbolic value (aesthetic and aspirational storytelling), and Company C epistemic value (expert knowledge and professionalism). These patterns confirm that value transmission, rather than direct relationship-building, dominates the communication logic of industrial actors, extending the classical understanding of relational marketing beyond emotional attachment toward knowledge-based and credibility-driven exchanges. The findings align with Appel et al.'s (Appel et al., 2020) perspective that social media constitute the foundation of modern marketing, but (in this particular context) they serve more a communicative than a relational role. In the Polish context, Kaczorowska-Spychalska (Kaczorowska-Spychalska, 2018) rightly notes that digital presence has become standard, though not synonymous with effectiveness. Industry reports such as Gemius/PBI (Gemius/PBI, 2025) also confirm that over 85% of Polish industrial firms are on social media, and 90% of internet users engage with these platforms. Yet our research shows that ubiquity does not guarantee effectiveness - results are extremely uneven and often dependent on viral phenomena. On the other hand, the findings partially confirm the conclusions of Grębosz, Siuda and Szymański (Grębosz et al., 2016), who note that practical and educational content fosters community-building around products. For Company A, this was visible in user comments, where customers reported undertaking actions inspired by video tutorials, though the effect proved short-lived and irregular. It is also worth referring to earlier sources. Howaniec (Howaniec, 2023) emphasized the role of social media in value-based marketing, while our findings show that educational value exerted stronger impact than brand presence alone. Buchnowska (Buchnowska, 2013) pointed to the low level of social media adoption among Polish firms, a claim no longer valid - today social media are ubiquitous, shifting the key question from "whether to be present" to "how to be effective." The conclusions of our study are also polemical in relation to foreign theses. Kapoor et al. (Kapoor et al., 2018) stressed the rapid development of social media research, while Arora et al. (Arora et al., 2019) measured influencer impact across platforms. Company B's results, however, show that influencer impact does not always foster dialogicality. Biedenbach, Hultén & Tarnovskaya (Biedenbach et al., 2019) analyzed brand equity management in B2B, yet Company C failed to translate such strategies into tangible results. Similarly, Salo (Salo, 2017) called for further research into social media in industrial marketing - our results validate this postulate, as traditional reach metrics fail to capture real effectiveness. Felix et al. (Felix et al., 2017), by contrast, proposed holistic frameworks of social media marketing balancing sales, reputational, and engagement content.

The analyzed firms' results show such balance was lacking. The broader historical context must also be considered. Koponen and Julkunen (Koponen, Julkunen, 2022) analyzed traditional industrial communication strategies based on long-term relations and personal contacts. Compared with these, contemporary digital strategies appear fragmented and more dependent on accidental viral effects than on consistent relationship-building. In conclusion, the findings indicate that although social media are ubiquitous and indispensable, their actual effectiveness in the manufacturing sector remains limited. Contrary to much of the literature, which emphasizes gradual relationship-building (Hollebeek, Macky, 2019; Howaniec, 2023), narrative strategies (Casaló et al., 2020; Stopczyńska, 2016), or qualitative B2B interactions (Iankova et al., 2019), our research demonstrates that outcomes depend more on algorithms, paid promotion, organizational resources, and sectoral characteristics than on communication strategies alone. Moreover, the obtained results strengthen the theoretical linkage between relationship marketing and value communication by demonstrating that, in manufacturing contexts, social media primarily serve as tools of functional value transmission rather than deep relational engagement. They show that emotional bonds with customers - so central in consumer markets - are often replaced by credibility- and utility-based exchanges. Consequently, the findings extend the concept of relationship marketing by introducing the notion of "operational relationship maintenance", where the goal is not to create long-term emotional ties but to maintain continuous visibility and informational relevance. At the same time, they challenge the assumption that relational marketing naturally translates into measurable online engagement, suggesting the need for a revised model integrating technological, algorithmic, and sectoral determinants of digital communication effectiveness.

6. Conclusions

The conducted research confirmed that the effectiveness of social media communication in manufacturing enterprises is shaped by multiple factors, most notably industry-specific conditions, the type of content, and the coherence of the adopted strategy. The analysis revealed that in consumer-oriented sectors, effectiveness derives primarily from the ability to produce visual and practical content that addresses user needs and facilitates the creation of an emotional bond with the brand. At the same time, significant limitations were identified, including an excessive reliance on viral effects, which generate high performance indicators only temporarily, and the dominance of simple reactions over dialogic forms of interaction. In industrial sectors, effectiveness assumes a different form, where the crucial element is the strengthening of reputation and the establishment of expert credibility, even in the face of low quantitative indicators. A critical reflection on the study highlights several limitations that should be addressed in future research. First, the reliance on publicly available indicators

excluded the possibility of assessing financial efficiency, which makes it difficult to determine the actual business value of social media communication. Second, the cross-sectional design captured only short-term outcomes, leaving unanswered questions about the sustainability of strategies and their long-term impact on organizational growth. Third, the uneven distribution of engagement, often concentrated around single posts or campaigns, indicates that the results may be strongly affected by external factors such as algorithms or seasonal trends, limiting their generalizability. Based on the conducted research, interviews, and analytical work, several recommendations can be formulated. First, effective communication requires a balance between content designed for broad reach and content of a more in-depth nature, which fosters long-term engagement and customer loyalty. Excessive dependence on viral effects or simple reactions leads to short-term outcomes that do not translate into stable brand development. Second, while the development of multi-channel strategies is essential, it must be consistent and coherent. Neglecting certain platforms reduces the ability to exploit their potential, whereas fragmented activities without a unified narrative result in an inconsistent image. Third, the evaluation of effectiveness should rely on a comprehensive set of indicators. Absolute metrics, such as the number of likes or views, are insufficient. Relative measures such as engagement rate, median interactions, or concentration indexes should be applied. Fourth, it is recommended to integrate community activity indicators with business metrics, including lead generation, client acquisition, or sales growth, in order to capture the actual translation of digital communication into organizational objectives. Despite these weaknesses, the study contributes new knowledge by showing that social media effectiveness in manufacturing enterprises is not defined by the scale of activity but by its alignment with sectoral logic and strategic coherence. The findings emphasize that consumer-oriented firms benefit most from content that combines utility and emotional appeal, while industrial companies rely primarily on credibility and expertise. This distinction enriches the theoretical debate on relationship marketing by demonstrating that engagement metrics alone cannot serve as a universal benchmark across different business contexts. From a practical standpoint, the research indicates that companies should not only measure visible interactions but also link digital activities to concrete business outcomes, such as lead generation, client acquisition, or reputation building. Integrating quantitative metrics with qualitative evaluation enables organizations to identify communication patterns that contribute to sustainable competitive advantage. Furthermore, the results may serve as a reference point for SMEs, which often operate under resource constraints, helping them to prioritize investments in digital competences and long-term strategic planning. In conclusion, the empirical findings indicate that the effectiveness of social media communication in manufacturing enterprises does not stem from a single dominant factor but from a complementary approach that combines industry adaptation, conscious use of content formats, cross-channel consistency, and rigorous evaluation of results. Only such an integrated perspective allows social media to be treated not as an auxiliary instrument but as an integral component of management and marketing strategy.

In this way, the study broadens the understanding of social media as a management tool, showing that its role extends beyond visibility to encompass organizational credibility, knowledge sharing, and relationship building. From a theoretical perspective, the research findings make it possible to gain a deeper understanding of how industry-specific factors influence the effectiveness of communication in social media. They demonstrate that in the case of manufacturing and industrial enterprises, effectiveness should not be assessed through quantitative indicators of activity, but rather through the quality of relationships, reputation, and the level of trust that the organization is able to establish within the digital environment. This indicates that social media serve not only as a promotional channel but also as a tool for building professional image and organizational credibility. The study also shows that short-term phenomena such as sudden increases in popularity or viral effects do not constitute reliable measures of success, as long-term effectiveness in communication results from consistency, coherence, and the alignment of messages with stakeholder expectations. From a practical perspective, the findings emphasize the necessity for manufacturing enterprises to treat social media as a key component of long-term communication and brand development strategy. Effective use of digital channels requires regular activity, the development of analytical competencies, and a coherent narrative tailored to the characteristics of the sector. The best results are achieved by organizations that combine educational and informational content with authentic storytelling while maintaining consistency across communication channels. It is also important to highlight the significance of investing in human and technological resources - the lack of dedicated specialists and analytical tools remains one of the main limitations to the effective use of social media. The results confirm that success in digital communication stems from long-term planning, consistent execution, and data-driven decision-making rather than intuition. Future research should expand the analysis to include financial and temporal dimensions to better understand how social media activity influences business performance, innovation capacity, and the sustainable growth of organizations.

References

1. Al Saifi, S.A., Dillon, S., McQueen, R. (2016). The relationship between face to face social networks and knowledge sharing: an exploratory study of manufacturing firms. *Journal of Knowledge Management*, 20(2), 308-326. <https://doi.org/10.1108/JKM-07-2015-0251>
2. Androniceanu, A., Georgescu, I., Kinnunen, J. (2020). *The Key Role of Social Media in Identifying Consumer Opinions for Building Sustainable Competitive Advantages*, pp. 261-277. https://doi.org/10.1007/978-3-030-49576-3_20
3. Apanowicz, J. (2000). *Metodologiczne elementy procesu poznania naukowego w teorii organizacji i zarządzania*. WSAiB.

4. Apanowicz, J. (2002). *Metodologia ogólna*. WSAiB.
5. Arthurs, J., Drakopoulou, S., Gandini, A. (2018). Researching YouTube. *Convergence*, 24(1), 3-15. https://doi.org/10.1177/1354856517737222/ASSET/1354856517737222.FP.PNG_V03
6. Ashley, C., Tuten, T. (2015). Creative Strategies in Social Media Marketing: An Exploratory Study of Branded Social Content and Consumer Engagement. *Psychology & Marketing*, 32(1), 15-27. <https://doi.org/10.1002/MAR.20761>
7. Baj-Rogowska, A., Sikorski, M. (2023). Exploring the usability and user experience of social media apps through a text mining approach. *Engineering Management in Production and Services*, 15(1), 86-105. <https://doi.org/10.2478/emj-2023-0007>
8. Bala, H., Massey, A.P., Hsieh, C.J. (2016). A Multimethod Study of Enterprise Social Media Implementation and Use. *Journal of Organizational and End User Computing*, 28(3), 141-162. <https://doi.org/10.4018/JOEUC.2016070109>
9. Balcerowska, J.M., Brailovskaia, J. (2024). Psychopathological symptoms and social networking sites addiction in Poland and Germany: The role of fear of missing out and preference for online social interaction. *Computers in Human Behavior*, 156, 108240. <https://doi.org/10.1016/j.chb.2024.108240>
10. Berg, C.J., LoParco, C.R., Cui, Y., Pannell, A., Kong, G., Griffith, L., Romm, K.F., Yang, Y.T., Wang, Y., Cavazos-Rehg, P.A. (2023). A review of social media platform policies that address cannabis promotion, marketing and sales. *Substance Abuse: Treatment, Prevention, and Policy*, 18(1), 1-8. <https://doi.org/10.1186/S13011-023-00546-X/TABLES/2>
11. Birkel, H., Müller, J.M. (2024). A social network theory perspective on the potentials of enterprise social media for purchasing and supply management. *International Journal of Logistics Research and Applications*, 27(8), 1430-1454. <https://doi.org/10.1080/13675567.2022.2146075>
12. Boyd, D.M., Ellison, N.B. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210-230. <https://doi.org/10.1111/J.1083-6101.2007.00393.X>
13. Brady, W.J., Jackson, J.C., Lindström, B., Crockett, M.J. (2023). Algorithm-mediated social learning in online social networks. *Trends in Cognitive Sciences*, 27(10), 947-960. <https://doi.org/10.1016/J.TICS.2023.06.008>
14. Braojos-Gomez, J., Benitez-Amado, J., Javier Llorens-Montes, F. (2015). How do small firms learn to develop a social media competence? *International Journal of Information Management*, 35(4), 443-458. <https://doi.org/10.1016/j.ijinfomgt.2015.04.003>
15. Caya, O., Mosconi, E. (2023). Citizen behaviors, enterprise social media and firm performance. *Information Technology & People*, 36(3), 1298-1325. <https://doi.org/10.1108/ITP-07-2020-0514>

16. Chin, T.A., Muharam, F.M., Lai, L.Y., Sulaiman, Z., Tat, H.H., Choon, T.L. (2018). *Perceived value and customer brand engagement of transportation network company facebook fan page*. 020005. <https://doi.org/10.1063/1.5080058>
17. Conti, E., Camillo, F., Pencarelli, T. (2023). The impact of digitalization on marketing activities in manufacturing companies. *The TQM Journal*, 35(9), 59-82. <https://doi.org/10.1108/TQM-11-2022-0329>
18. Cudny, W., Comunian, R., Wolaniuk, A. (2020). Arts and creativity: A business and branding strategy for Lodz as a neoliberal city. *Cities*, 100, 102659. <https://doi.org/10.1016/j.cities.2020.102659>
19. Czakon, W. (2015). *Podstawy metodologii badań w naukach o zarządzaniu*. Wolters Kluwer.
20. Dao, T.C., Liao, Y.-K., Chen, G., Luu, T.-M.-N., Le, T.M. (2024). The Influence of B2B Social Media Marketing and Relationship Marketing on Customer Relationship Management Effectiveness, WOM and Loyalty: A Mediator Analysis. *International Review of Management and Marketing*, 15(1), 71-81. <https://doi.org/10.32479/irmm.17340>
21. Davis, J., Wolff, H.G., Forret, M.L., Sullivan, S.E. (2020). Networking via LinkedIn: An examination of usage and career benefits. *Journal of Vocational Behavior*, 118, 103396. <https://doi.org/10.1016/J.JVB.2020.103396>
22. De Vries, L., Gensler, S., Leeflang, P.S.H. (2012). Popularity of Brand Posts on Brand Fan Pages: An Investigation of the Effects of Social Media Marketing. *Journal of Interactive Marketing*, 26(2), 83-91. <https://doi.org/10.1016/J.INTMAR.2012.01.003>
23. Deszczynski, B. (2018). Business networking in social media - a case study of Polish export professionals. *Journal of Eastern European and Central Asian Research*, 5(1). <https://doi.org/10.15549/jeecar.v5i1.185>
24. Druffel, K. (2017). *Business Use of Social Media and Systemic Impact Green IT*. <https://core.ac.uk/download/pdf/301372666.pdf>
25. Dwivedi, Y.K., Ismagilova, E., Hughes, D.L., Carlson, J., Filieri, R., Jacobson, J., Jain, V., Karjaluoto, H., Kefi, H., Krishen, A.S., Kumar, V., Rahman, M.M., Raman, R., Rauschnabel, P.A., Rowley, J., Salo, J., Tran, G.A., Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, 59, 102168. <https://doi.org/10.1016/j.ijinfomgt.2020.102168>
26. Eisenhardt, K.M., Graebner, M.E. (2007). Theory Building From Cases: Opportunities And Challenges. *Academy of Management Journal*, 50(1), 25-32. <https://doi.org/10.5465/amj.2007.24160888>
27. Forouzandeh, S., Soltanpanah, H., Sheikhahmadi, A. (2014). *Content marketing through data mining on Facebook social network*. Webology.

28. Gao, H., Tate, M., Zhang, H., Chen, S., Liang, B. (2018). Social media ties strategy in international branding: An application of resource-based theory. *Journal of International Marketing*, 26(3), 45-69. <https://doi.org/10.1509/JIM.17.0014>

29. Gómez Sánchez, J., Lagnado, D., Gabriel Ionescu, C., Licu, M. (2023). Are TikTok Algorithms Influencing Users' Self-Perceived Identities and Personal Values? *A Mini Review. Social Sciences*, Vol. 12(8), 465. <https://doi.org/10.3390/SOCSCI12080465>

30. Grębosz, M., Siuda, D., Szymański, G. (2016). *Social media marketing*. Wydawnictwo Politechniki Łódzkiej.

31. Grębosz-Krawczyk, M., Zakrzewska-Bielawska, A., Otto, J. (2021). The role of social media in communication of nostalgic brands. *Procedia Computer Science*, 192, 2413-2421. <https://doi.org/10.1016/j.procs.2021.09.010>

32. Gregor, B., Kaczorowska-Spsychalska, D. (2016). The Influence of Social Media on Consumer Behaviour in the 55+ Age Group. *Problemy Zarządzania*, 59(2/1), 224-236. <https://doi.org/10.7172/1644-9584.59.14>

33. Griffin, R.W. (2017). *Podstawy zarządzania organizacjami*. <https://www.ibuk.pl/fiszka/184844/podstawy-zarzadzania-organizacjami.html>

34. Hahn, U., Merdes, C., von Sydow, M. (2024). Knowledge through social networks: Accuracy, error, and polarisation. *PLOS ONE*, 19(1), e0294815. <https://doi.org/10.1371/journal.pone.0294815>

35. Hall, H. (2019). An Application Of Qualitative Marketing Studies In The Identification Of The Consumer Decision-Making Process. Effects And Benefits. *Humanities and Social Sciences Quarterly*. <https://doi.org/10.7862/rz.2019.hss.37>

36. Hassani, A., Mosconi, E. (2022). Social media analytics, competitive intelligence, and dynamic capabilities in manufacturing SMEs. *Technological Forecasting and Social Change*, 175, 121416. <https://doi.org/10.1016/j.techfore.2021.121416>

37. Holstein-Beck, M. (1987). *Szkice o pracy*. Książka i Wiedza.

38. Ilieva, R.T., McPhearson, T. (2018). Social-media data for urban sustainability. *Nature Sustainability*, 1(10), 553-565. <https://doi.org/10.1038/s41893-018-0153-6>

39. Imran, M., Iqbal, J., Mujtaba, H., Saleem, N., Rahim, R. (2020). Role of Social Media in SME Environmental Performance in Pakistan Leather Industry: A Mediating Role of Social License. *Abasyn Journal of Social Sciences*, 13(1), 2020. <https://doi.org/10.34091/AJSS.13.1.15>

40. Jabłońska, M.R. (2017). Modern Consumer in Cyberspace – Internet and Psychology Approach. *Foundations of Management*, 9(1), 111-122. <https://doi.org/10.1515/fman-2017-0009>

41. Júnior, J.R. de O., Limongi, R., Lim, W.M., Eastman, J.K., Kumar, S. (2023). A story to sell: The influence of storytelling on consumers' purchasing behavior. *Psychology & Marketing*, 40(2), 239-261. <https://doi.org/10.1002/MAR.21758>

42. Kaczmarczyk, P. (2018). Application of the linear ordering methods in the voivodships research in the field of social media usage in enterprises in the period 2014-2017. *Journal of Economics and Management*, 33, 39-62. <https://doi.org/10.22367/jem.2018.33.03>

43. Kaczmarczyk, S. (2014). *Badania marketingowe: podstawy metodyczne*. PWE.

44. Kaplan, A.M., Haenlein, M. (2010). Users of the world, unite! *The challenges and opportunities of Social Media*. *Business Horizons*, 53(1), 59-68. <https://doi.org/10.1016/J.BUSHOR.2009.09.003>

45. Karpińska-Krakowiak, M. (2016). The Effects of Social Networking Sites on Consumer-Brand Relationships. *Journal of Computer Information Systems*, 56(3), 204-210. <https://doi.org/10.1080/08874417.2016.1153894>

46. Karpińska-Krakowiak, M., Modliński, A. (2018). The Effects of Pranks in Social Media on Brands. *Journal of Computer Information Systems*, 58(3), 282-290. <https://doi.org/10.1080/08874417.2016.1241683>

47. Kemp, S. (2024). *Digital 2024: Poland*. DataReportal. <https://datareportal.com/reports/digital-2024-poland>

48. Khan, M.L. (2017). Social media engagement: What motivates user participation and consumption on YouTube? *Computers in Human Behavior*, 66, 236-247. <https://doi.org/10.1016/J.CHB.2016.09.024>

49. Kietzmann, J.H., Hermkens, K., McCarthy, I.P., Silvestre, B.S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 54(3), 241-251. <https://doi.org/10.1016/J.BUSHOR.2011.01.005>

50. Kitano, Y., Yamada, T., Tan, K.H. (2021). Technological innovation, new solutions, branding, and promotion: Twitter and technical report use in Japanese's companies. *Enterprise Information Systems*, 15(10), 1683-1712. <https://doi.org/10.1080/17517575.2021.1907863>

51. Klein, C. (2022). Using Digital Customer Communities as a Marketing Tool to Connect and Educate Customers in the Manufacturing Industry. *International Journal on Social and Education Sciences*, 4(4), 620-633. <https://doi.org/10.46328/ijoneses.419>

52. Kotarbiński, T. (1955). *Traktat o dobrej robocie*.

53. Kotler, P., Keller, K.L. (2015). *Marketing*. Dom Wydawniczy Rebis.

54. Kotnis, M. (2023). Skuteczność profili społecznościowych miast wojewódzkich w Polsce. *Przegląd Organizacji*, 46-51. <https://doi.org/10.33141/po.2023.01.06>

55. Kowalik, K. (2021). Social media as a distribution of emotions, not participation. Polish exploratory study in the EU smart city communication context. *Cities*, 108, 102995. <https://doi.org/10.1016/j.cities.2020.102995>

56. Krawczyk, D. (2022). The Importance of Facebook Profile Management in Communication Activities of Local Government. Case Study in Poland. *Scientific Papers of Silesian University of Technology. Organization & Management*, vol. 165.

57. Le Viet-Błaszczyk, M., Lerman, J. (2020). The Role of Social Media in Purchasing Behaviour of Young Digital Customers in Poland. *International Journal of Contemporary Management*, 19(3), 43-61. <https://doi.org/10.4467/24498939IJCM.20.010.13152>

58. Legzdina, A., Sperlina, A. (2020). *Application Of The Instagram Social Network Platform In The Marketing Communication: Food Industry Case Study In Latvia*. Dspace.Lu.LvA LegzdinaScientific Programme Committee.

59. Li, F., Larimo, J., Leonidou, L.C. (2023). Social media in marketing research: Theoretical bases, methodological aspects, and thematic focus. *Psychology & Marketing*, 40(1), 124-145. <https://doi.org/10.1002/mar.21746>

60. Lipowski, M., Pastuszak, Z., Bondos, I. (2018). Synergy of quantitative and qualitative marketing research – CAPI and observation diary. *Econometrics*, 22(1), 58-67. <https://doi.org/10.15611/eada.2018.1.04>

61. Luo, Z., Guo, J., Benitez, J., Scaringella, L., Lin, J. (2024). How do organizations leverage social media to enhance marketing performance? Unveiling the power of social CRM capability and guanxi. *Decision Support Systems*, 178, 114-123. <https://doi.org/10.1016/j.dss.2023.114123>

62. Maison, D. (2018). *Qualitative Marketing Research*. Routledge. <https://doi.org/10.4324/9780429467028>

63. Malec, M., Stańczak, L., Dróżdż-Szeflińska, M. (2024). The use of internet and social media as marketing tools in commercialization of research results. *Scientific Papers of Silesian University of Technology Organization and Management Series*, 196. <https://doi.org/10.29119/1641-3466.2024.196.19>

64. Milanzi, M.A. (2012). Export Barrier Perceptions in Tanzania: The Influence of Social Networks. *Journal of African Business*, 13(1), 29-39. <https://doi.org/10.1080/15228916.2012.657941>

65. Müller, J.M., Pommeranz, B., Weisser, J., Voigt, K.-I. (2018). Digital, Social Media, and Mobile Marketing in industrial buying: Still in need of customer segmentation? Empirical evidence from Poland and Germany. *Industrial Marketing Management*, 73, 70-83. <https://doi.org/10.1016/j.indmarman.2018.01.033>

66. Nie, Z., Waheed, M., Kasimon, D., Wan Abas, W.A.B. (2023). The Role of Social Network Analysis in Social Media Research. *Applied Sciences*, Vol. 13(17), 9486. <https://doi.org/10.3390/APP13179486>

67. Olejniczak, A. (2022). The usage of instagram app on the example of young consumers of the generation Z. *Serbian Journal of Management*, 17(2), 351-360. <https://doi.org/10.5937/sjm17-40460>

68. Pereira, B., Brás, G., Vieira, E., Borges, A.P., Vieira, B.M., Fonseca, M. (2024). *The Impact of Using Digital Platforms and Sharing Online Experiences on the Reputation of a Company*, pp. 47-57. https://doi.org/10.1007/978-3-031-60328-0_5

69. Piłejko, K. (1976). *Prakseologia - nauka o sprawnym działaniu*. PWN.

70. Pócs, D., Adamovits, O., Watt, J., Kovács, R., Kelemen, O. (2021). Facebook Users' interactions, organic reach, and engagement in a smoking cessation intervention: Content analysis. *Journal of Medical Internet Research*, 23(6), e27853. <https://doi.org/10.2196/27853>

71. Samadi, M., Nikolaev, A., Nagi, R. (2016). A subjective evidence model for influence maximization in social networks. *Omega*, 59, 263-278. <https://doi.org/10.1016/j.omega.2015.06.014>

72. Siuda, D. (2018). *Activity of the virtual brand communities members on fanpages. Konferencja Globalization And Its Socio-Economic Consequences*. 18Th International Scientific Conference.

73. Skrobich, L. (2016). Content marketing jako jeden z kluczowych elementów nowoczesnej strategii marketingowej. *Zeszyty Naukowe Politechniki Częstochowskiej Zarządzanie*, 21(1), 84-92. <https://doi.org/10.17512/znpocz.2016.2.07>

74. Smith, A.N., Fischer, E., Yongjian, C. (2012). How Does Brand-related User-generated Content Differ across YouTube, Facebook, and Twitter? *Journal of Interactive Marketing*, 26(2), 102-113. <https://doi.org/10.1016/J.INTMAR.2012.01.002>

75. Stasiak, E. (2016). Rozwój społeczno-gospodarczy na przykładzie gmin miejskich województwa łódzkiego. In: R. Dziuba, M. Szewczyk, E. Okraszewska (Eds.), *Ekonomia zrównoważonego rozwoju. Społeczeństwo, Środowisko, Innowacje w gospodarce*. Wydawnictwo UŁ. <https://doi.org/10.18778/8088-490-8.08>

76. Stepaniuk, K. (2024). Social Media Content Multimodality and the Level of User Interactions from the Perspective of Facebook and Instagram. *Engineering Economics*, 35(5), 602–613. <https://doi.org/10.5755/j01.ee.35.5.36677>

77. Stopczyński, B. (2015). Użyteczność serwisu społecznościowego Facebook dla detalistów internetowych w Polsce. *Handel Wewnętrzny*, 5(358), 313-326.

78. Strumińska-Kutra, M., Koładkiewicz, I. (2018). Case Study. In: *Qualitative Methodologies in Organization Studies* (pp. 1-31). Springer International Publishing. https://doi.org/10.1007/978-3-319-65442-3_1

79. Tafesse, W., Wien, A. (2017). A framework for categorizing social media posts. *Cogent Business & Management*, 4(1). <https://doi.org/10.1080/23311975.2017.1284390>

80. Tarapata, J. (2024). Evaluation of the communication of brand marketing activities on social media and its relationship to brand trust consumers of Generation Z. *Scientific Papers of Silesian University of Technology Organization and Management Series*, 199. <https://doi.org/10.29119/1641-3466.2024.199.45>

81. Tomasik, K., Marona, B. (2023). Analysis of Marketing Tools Used by Real Estate Development Companies Using Secret Client Research – a Case Study From Krakow. *Real Estate Management and Valuation*, 31(2), 29-38. <https://doi.org/10.2478/remav-2023-0011>

82. Tran, N.L., Rudolf, W. (2022). Social Media and Destination Branding in Tourism: A Systematic Review of the Literature. *Sustainability*, 14(20), 13528. <https://doi.org/10.3390/su142013528>

83. Tsironis, G., Daglis, T., Tsagarakis, K.P. (2022). Social media and EU companies' engagement in circular economy: A LinkedIn approach. *Sustainable Production and Consumption*, 32, 802-816. <https://doi.org/10.1016/j.spc.2022.06.006>

84. Veldeman, C., Van Praet, E., Mechant, P. (2017). Social Media Adoption in Business-to-Business: IT and Industrial Companies Compared. *International Journal of Business Communication*, 54(3), 283-305. <https://doi.org/10.1177/2329488415572785>

85. Woźniakowski, M. (2023). Evolution of the use of social media by the local governments of the Łódzkie voivodship. *Scientific Papers of Silesian University of Technology. Organization and Management Series*, 174, 417-430. <https://doi.org/10.29119/1641-3466.2023.174.29>

86. Wrona, K. (2012). Identyfikacja wizualna - jej rola w kształtowaniu świadomości marki oraz komunikacji marketingowej. *Prace Instytutu Lotnictwa*, Nr 1(222), 233-249. <https://www.infona.pl/resource/bwmeta1.element.baztech-8baa8c0c-0710-4f19-9605-38b1d7e3adb5>

87. Yesilada, M., Lewandowsky, S. (2022). Systematic review: YouTube recommendations and problematic content. *Internet Policy Review*, 11(1). <https://doi.org/10.14763/2022.1.1652>

88. Zachlod, C., Samuel, O., Ochsner, A., Werthmüller, S. (2022). Analytics of social media data – State of characteristics and application. *Journal of Business Research*, 144, 1064-1076. <https://doi.org/10.1016/J.JBUSRES.2022.02.016>

89. Zachurzok-Srebrny, E. (2024). Using Artificial Intelligence for Customer Engagement in Social Media. *Scientific Papers of Silesian University of Technology. Organization & Management*, 209.

90. Zasina, J. (2018). The Instagram Image of the City. Insights from Łódź, Poland. *Bulletin of Geography. Socio-Economic Series*, 42(42), 213-225. <https://doi.org/10.2478/bog-2018-0040>

91. Zhang, C., Peng, C. (2024). Examining Influence of Electronic Words of Mouth and Social Media Marketing on Customer Satisfaction and Purchase Intention: Moderating Impact of Effectiveness of Information and Communication Technologies. *Profesional de La Información*, 33(4). <https://doi.org/10.3145/epi.2024.ene.0412>

92. Zieleniewski, J. (1976). *Organizacja i zarządzanie (V)*. PWN.