COMMUNICATION & SOCIETY

Miscellaneous

Who Owns the Technology of the Future? An Analysis of Investment and Acquisition Strategies in Artificial Intelligence Technologies of Large Digital and Media Conglomerates

Uwe Eisenbeis
https://orcid.org/0000-0002-3435-569X
eisenbeis@hdm-stuttgart.de
Hochschule der Medien Stuttgart

Magdalena Ciepluch
https://orcid.org/0000-0002-0226-6852
ciepluch@hdm-stuttgart.de
Hochschule der Medien Stuttgart

David Simões
https://orcid.org/0009-0005-3734-5787
simoes@hdm-stuttgart.de
Hochschule der Medien Stuttgart

Submitted
December 9, 2024
Approved
July 4, 2025

Communication & Society
ISSN 0214-0039
E ISSN 2386-7876
www.communication-society.com

2026 – Vol. 39 (1)
pp. 205-224

How to cite this article:
Eisenbeis, U., Ciepluch, M., & Simões, D. (2026). Who Owns the Technology of the Future? An Analysis of Investment and Acquisition Strategies in Artificial Intelligence Technologies of Large Digital and Media Conglomerates, *Communication & Society*, *39*(1), 205-224.
https://doi.org/10.15581/003.39.1.015

Abstract

This paper presents a theoretical concept of "Technology Ownership" and outlines five dimensions that are relevant in the context of technology investment decisions: "Technology Investment Scope", "Technology Investment Breadth/Variety", "Technology Investment Depth", "Technology Investment Exclusivity", and "Technology Investment Earliness". These dimensions and a resulting "Technology Ownership Score" are measured and applied in an empirical study to analyse almost 2,000 AI investments and acquisitions of 64 large digital and media companies over the past 23 years (from 2000 to 2023). The study examines the transformative role of AI in the media industry, emphasizing the ownership of AI technologies as a key factor influencing future market structures and competitiveness. The study concentrates on the strategic actions of leading digital and media companies, their investments and acquisitions in the field of AI, and the distribution of power through technological ownership structures. Five patterns of "AI-Technology Ownership" can be observed among leading digital and media companies. Most important: While the major digital conglomerates, notably Alphabet, Microsoft and Amazon, dominate the field of AI technology, it is becoming evident that legacy media outlets are becoming increasingly reliant on these digital corporations due to the growing influence of AI.

Keywords

Technology Ownership, Artificial Intelligence, Technology Investments, Technology Acquisitions, Investment Strategy, Technology Portfolio.

1. Introduction

Artificial Intelligence (AI in the following) and its applications are profoundly transforming every stage of the media value chain (eMarketer, 2018; PricewaterhouseCoopers, 2024), impacting sectors such as journalism, press and print media, the book market, film and cinema, broadcasting, the music industry, digital media and online services, the advertising market, and the gaming industry (Agrawal et al., 2019; Chan-Olmsted, 2019; Gentzkow, 2018). AI has driven incremental productivity gains and cost efficiencies through platformisation, content personalisation, and process automation (de-Lima-Santos & Ceron, 2021; Dijck et al., 2018). However, these developments are only a prelude to more radical changes that will fundamentally reshape how media companies operate and the products or services they deliver. Moreover, AI is expected to disrupt media markets, transforming competitive landscapes and business models (Horska, 2020; Trattner et al., 2022).

As a result, the debate has shifted from the question of whether AI technologies should be adopted to a more pressing focus on how they can be effectively integrated into existing operations to foster business innovation (Chan-Olmsted, 2019; J. Lee et al., 2019). This shift is driven by the unprecedented speed and dynamism of AI developments, which have rapidly outpaced earlier expectations and intensified the need for strategic integration (Marinchak et al., 2018; OECD, 2020). This intensifies the question of who will dominate future media markets, particularly as AI emerges as the fundamental technology with exceptional disruptive potential for the media industry.

In today's digital environment, the ability to control key technologies—a concept we refer to as "Technology Ownership"—is central. This control extends to a number of areas, such as the setting of standards, control over patents and technology licenses, and the role of gatekeepers and digital intermediaries, which are becoming increasingly influential through their dominance in the field of AI (Eisenbeis & Ciepluch, 2023; Gawer & Cusumano, 2014; Kenney & Zysman, 2016). This creates a double dependency: both companies and institutions are forced to acquire technologies and applications from these gatekeepers and pay for licenses and patents to use them (Dolata, 2017), or they become completely dependent on them, which raises questions about the distribution of power and control over key technological resources (Leung, 2019; Verdegem, 2021).

This issue becomes more urgent when considering that since the rise of the new economy around the year 2000—driven on the one hand by the GAFAM companies (Wiedemann & Dielmann, 2020) and on the other by the start-up boom in the digital economy—investing in technology companies and start-ups or acquisitions and buyouts, has become a key part of the competitive strategy portfolio (Dolata, 2017). This is also the case with regard to AI.

In light of the two observations outlined above, namely the growing significance of AI in the media landscape and the crucial role of strategic and successful corporate alignment through investments and acquisitions, it is worth examining the extent to which media companies have access to AI technologies. This inquiry does not concern the extent to which media companies utilize AI technologies and applications. Instead, it focuses on the extent to which media companies own AI assets (including companies or start-ups that develop AI technologies and/or applications or that own AI-related rights and patents) in terms of "AI-Technology Ownership" (Asija et al., 2024).

The article is based on the assumption that a high degree of "AI-Technology Ownership" will be a decisive factor in the development and shape of the media world of the future.

The following questions (one conceptual and one empirical) will be addressed:

- How can technological power and impact ("Technology Ownership") be measured?

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

- What strategic patterns of "AI-Technology Ownership" can be observed among leading digital and media companies, based on differences in breadth, depth, exclusivity, and earliness of investment?

2. Theoretical Background

2.1. *The role of AI in the media industry*

AI is transforming the media industry at all stages of the value chain (Chan-Olmsted, 2019; Dijck et al., 2018; Napoli, 2014). It is anticipated that forthcoming technological developments will reinforce the function of AI in the media industry's production, distribution and interaction strategies, thereby further optimising operational processes and improving interaction with the audience. A study by the McKinsey Global Institute (2018) suggests that AI could contribute up to $150 billion to global GDP by 2030, with significant impacts in the media sector. The current applications of AI include recommendation engines, such as those employed by Netflix and YouTube, which are responsible for over 70% of user engagement (Covington et al., 2016; Gomez-Uribe & Hunt, 2016). The advent of "Generative AI" tools is transforming content creation and business models, creating new avenues for revenue generation in the global entertainment and media sector (PricewaterhouseCoopers, 2024). "Natural Language Processing" (NLP) supports content personalization through the analysis of sentiment and the identification of trends (Eisenbeis & Ciepluch, 2021). The automation of subtitling and transcription through "Speech Recognition" technology enhances accessibility for podcasts and videos on streaming platforms such as Spotify.

Furthermore, studies have indicated that AI has the potential to transform creativity, intellectual property rights, and targeted advertising through "Predictive Analytics", thus establishing it as an essential element in the evolution of the industry (Davenport & Mittal, 2023; Günther et al., 2017; Trattner et al., 2022). Extensive analyses, including those conducted by Chan-Olmsted (2019), Napoli (2014), and van Dijck, Poell, and de Waal (Dijck et al., 2018), highlight the potential of AI to enhance efficiency, personalisation, and profitability while reshaping media ecosystems.

2.2. *"Technology Ownership" as a competitive strategy*

In the context of the media ownership discussion, a central element of media economics and communications research, the role of technology is discussed from different perspectives—without using the term "Technology Ownership" explicitly. Winseck (2008) identifies technology as one of the three critical drivers of consolidation. Doyle (2014) emphasises the influence of technological change on media ownership patterns, examining the impact of technology on ownership regulations. Ultimately, the state of technology is presented as a crucial determinant in the relationship between media empire-building and media pluralism. Harrison and Woods (2007) examine the potential implications of media ownership concentration through mergers and acquisitions. They highlight concerns about the emergence of technological monopolies and the adverse effects on technological progress.

The term "Technology Ownership" is used in very different ways: In the academic debate, it usually refers to the question on availability and ownership of technical equipment of households (consumers) with/or the adoption and ownership of devices (Bender et al., 2014; Buzzetto-More & Sweat-Guy, 2007; Kamin & Lang, 2016). The term "Technology Ownership" is also used in the context of companies' sustainable energy infrastructure and the question of the extent to which companies (should) build and operate this energy infrastructure

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

themselves. A similar discussion exists with regard to the question of cloud infrastructure (Gonzenbach et al., 2014; Shad & Chanduka, 2017). In these contexts, however, it is always more a question of make-or-buy (efficiency versus costs). However, this is already close to what is meant by "Technology Ownership" in the context of this article: The question of the ability to control, influence and dominate technologies and, as a consequence, markets.

In this context, "Technology Ownership" is understood as a strategic positioning in one (or more) technology areas/fields. The goal behind this strategic positioning is to establish a sustainable competitive advantage in the relevant technology fields, as well as a superior position in the company's own core business. In some cases, this may also extend to related or unrelated (vertical and horizontal as well as lateral) markets. The aforementioned strategies serve to enhance strategic strength, which facilitates the development of strategic capabilities and the establishment of strategic market barriers against competitors (in the broadest sense) through strategic actions (Scholz, 1987, 2000). Strategies in the context of "Technology Ownership" are often discussed in regard to acquisitions: Eisenbeis and Ciepluch (2023) reflect on the strategic instrument of technology acquisitions of GAFAM in general, Asija et al. (2024), Caviggioli et al. (2017), Wright et al. (2002), and Ziedonis (2004) deal in particular with the strategies in connection with the acquisition of technology patents via company acquisitions.

The high relevance or even necessity of positioning oneself in the media markets (and therefore in the communication and information markets) in a technologically optimised competitive strategy is not new. In information and technology economics, the question of technology and communication standards, corresponding competition (standard wars) and positioning in this field has been discussed since the very beginning (Shapiro & Varian, 2010)—not least due to the (indirect) network effects and lock-in effects in these markets. Corresponding strategies have also already been published albeit without using the term "Technology Ownership" (Dolata, 2017; Wiedemann & Dielmann, 2020).

2.3. *Key dimensions of "Technology Ownership"*

In order to establish and expand the concept of "Technology Ownership", five key dimensions (Eisenbeis, 2022; Kim et al., 2019) appear relevant as strategic fields of decision and action: (1) scope of the technology portfolio, (2) breadth/variety of the technology portfolio, (3) depth of technology assets in the portfolio, (4) exclusivity of the technology investment portfolio, and (5) speed of technology investment and acquisition activities. The following section will provide a more detailed explanation of these five key dimensions.

The (1) scope of the technology portfolio can be defined as the total number of assets of a company engaging with applications from the technological field. This refers to external investments and acquisitions in the respective technologies. A high scope of acquisitions and investments in a technology field not only provides short-term operational advantages, but also contributes to the long-term protection of market position and the enhancement of innovative power. Particularly large companies investing in and acquiring relevant technologies are experiencing faster revenue and business growth (Babina et al., 2024; Rubab, 2023).

The (2) breadth/variety of the technology portfolio can be understood as the diversification of the technology portfolio. On the one hand, this is related to the degree of variety, specifically whether the technology portfolio is concentrated on a limited number of technologies or whether it encompasses a diverse range of technological fields. Stirling (2007) refers to this aspect as the number of different categories within a system (how many types of things are there?). On the other hand, this is related to the balance, which examines the

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

distribution of elements among these categories (how much of each type is there?) (Stirling, 2007). Technological diversification functions as a key issue for technology and risk management (Booz et al., 1985), as it influences important factors like resource allocation, sustainability and therefore the continued existence of the company (Garcia-Vega, 2006; Lin et al., 2006). In particular, the diversification of a company's activities within a technology sub-field, is perceived as a competitive advantage, as the practice of coherent diversification, whereby technologies are closely related, has been linked to enhanced labour productivity (Pugliese et al., 2019). Moreover, such diversification reduces reliance on a single technology, providing a buffer against market volatility or the failure of a specific technological direction (Eisenbeis, 2022; Markides & Williamson, 1996).

In addition to the scope and breadth/variety of a technology portfolio, the (3) depth of the technology assets within the portfolio is also a relevant dimension for the concept of "Technology Ownership". It refers to the extent to which a company is investing in or acquiring a specific sub-technology, demonstrating the distribution of these activities within the overall technology portfolio. This dimension is closely related to the scope dimension, as it not only analyses whether activities are being carried out in this technology, but also the extent to which a company is investing (financial) resources in it. Therefore, the depth indicates the direction of diversification (van Kranenburg et al., 2004). Substantial investment and acquisition of specific technology assets enables companies to develop a high level of expertise in related areas, thereby ensuring the robustness and scalability of technology dependent applications. Such a "deep" technology portfolio allows companies to leverage synergies across related technologies, fostering innovation and operational efficiency (Lin & Chen, 2005; Ramanujam & Varadarajan, 1989).

Moreover, another crucial aspect of "Technology Ownership" is the (4) exclusivity of the entire technology portfolio and the individual assets. This dimension indicates the degree to which companies have secured access to specific technology assets and is related to the degree of autonomy of technology investments and, consequently, the respective ownership structure. The question of autonomy in technology investments concerns the selection of a cooperative or competitive approach. In many cases, collaboration in its various forms (such as strategic alliances, joint ventures, technology consortia or alliances) appears to be the most reasonable course of action. The competitive approach, exemplified by mergers and acquisitions, offers clear advantages despite its financial risks. Unlike the cooperative approach, which requires complex coordination and shared control, the competitive approach ensures exclusive access to resources, technologies and markets. This full control allows companies to implement strategies independently and exploit opportunities without negotiating compromises, making it a compelling option for companies seeking autonomy and strategic clarity. Exclusive technology assets offer significant competitive advantages for companies, enhancing decision-making processes and providing businesses with superior tools in the current market environment (Alferyev & Khusainova, 2020).

And last, the (5) speed of investment and acquisition activity related to specific technology assets describes the timing of technology adoption activities of a company relative to its competitors. The question thus arises as to the optimal timing for investing in or acquiring new technologies. A proactive behaviour involves taking early action to shape future outcomes, often positioning the company as a pioneer or first mover (Scholz, 2000; Sjurts, 2005). A number of strategic approaches have been developed for the analysis of companies according to their adoption timing in new technologies and the associated competitive advantages (Chan-Olmsted, 2006; Miles & Snow, 1978; Rogers, 2003). A leading position can

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

result in the attainment of a sustainable competitive advantages as technological leadership, patent advantages, higher product quality, and broader product lines (Gilbert & Birnbaum-More, 1996; Gómez-Villanueva & Ramírez-Solís, 2013; Lieberman & Montgomery, 1988). Early technology adoption can enhance innovation capabilities and outcomes for businesses (Nafizah et al., 2024), as leading companies are engaged in the process of upskilling their employees to develop, interpret and improve systems. This is being done with the aim of implementing the technology across a range of functions to improve efficiency and effectiveness (Davenport & Mittal, 2023).

3. Methodology

In light of the aforementioned background and formulated research questions, the article examines the technology acquisitions and investments (from 2000 to 2023) of the 100 largest digital and media companies (Institut für Medien- und Kommunikationspolitik, 2024) with regard to AI technologies. The technology acquisitions and investments are based on data from the Crunchbase platform (www.crunchbase.com), which has gained prominence in recent years as a valuable resource for business and management research (Dalle et al., 2017; Den Besten, 2020; Żbikowski & Antosiuk, 2021). In this study "acquisition" is used to describe an activity in which a digital and media company purchases a start-up or company from the AI field. Similarly, the term "investment" is used to describe an activity in which at least one digital and media company invest in a start-up or company from the AI field. The final sample includes almost 2,000 (1,937) investments and acquisitions made by 64 digital and media companies from the aforementioned top 100 (only 64 of the 100 companies made investments and acquisitions in the defined AI technologies).

The selection of AI technologies included in this study is based on two criteria. First, it draws on the industry group "Artificial Intelligence" as defined by Crunchbase, which encompasses start-ups and companies working on the simulation of human intelligence in machines. Second, additional technologies were included that are widely recognised in academic and industry contexts as belonging to the broader category of AI. This combined approach ensures that the selection reflects both platform-specific classifications and general definitions of artificial intelligence. Based on these criteria, the following 14 AI technologies were considered: "(General) Artificial Intelligence", "Autonomous Vehicles", "Computer Vision", "Facial Recognition", "Generative AI", "Image Recognition", "Intelligent Systems", "Machine Learning", "Natural Language Processing", "Predictive Analytics", "Robotic Process Automation", "Speech Recognition", "Text Analytics", and "Virtual Assistant".

To answer the first research question regarding the "AI-Technology Ownership" in the digital and media industry, the aforementioned five key dimensions are analysed, from which an overall "AI-Technology Ownership Score" is developed, that is to say, the extent to which one has control and influence over AI technology (development), which is a key factor in this context:

The first dimension (scope of the AI technology portfolio) is determined based on the total number of AI technology acquisitions and investments of the examined 64 digital and media companies. The number of activities within AI technologies was used as the basis for classifying the companies on a five-point logarithmic scale, with 1 representing a low scope and 5 representing a high scope. This scale represents the "AI-Technology Investment Scope".

To measure the second dimension (breadth/variety of the AI technology portfolio), the number of different AI technologies that a digital and media company added to its AI technology portfolio through investments or acquisitions indicates the diversity of its

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

technology investment portfolio. Given that 14 AI technologies have been defined, it is possible for companies to invest in or acquire up to 14 AI technologies. In order to create the "AI-Technology Ownership Score", the range from 1 to 14 was converted to a scale from 1 to 5, with 1 being equivalent to a low and 5 to a high variety of technologies in a company's portfolio. This scale represents the "AI-Technology Investment Breadth/Variety".

The third dimension (depth of AI technology assets in the portfolio) is measured by the total number of investments and acquisitions in the respective AI technologies divided by the number of different AI technologies in order to ascertain the average depth.

The resulting values were then mapped onto a logarithmic five-point scale to determine the "AI-Technology Ownership Score". Accordingly, a value of 1 represents companies that invest in or acquire only a minimal amount of individual AI technologies, whereas a value of 5 corresponds to companies with substantial investment or acquisition activity across their portfolio. This scale represents the "AI-Technology Investment Depth".

The fourth dimension (exclusivity of the entire portfolio and the individual AI technology assets) refers to the degree of autonomy in the AI technology investment activities. To capture this aspect, a multi-stage approach was applied to operationalise and quantify the exclusivity of investments and acquisitions: (a) The number of investors involved in each investment round was quantified and categorised with values ranging from 1 to 4, whereas 1 representing a low number of involved investors and 4 indicating a high number of involved investors. (b) These values were aggregated for each company and technology, and divided by the number of investments to obtain average investment exclusivity scores. (c) The number of acquisitions per AI technology was then multiplied by 5, as 5 represents the highest possible value of exclusivity and as acquisitions represent the highest level of exclusivity. (d) These acquisition-based scores were combined with the average investment values and normalised (divided by the number of acquisitions plus one). (e) Finally, an average exclusivity value per company across all AI technologies was calculated by summing up the exclusivity values of the respective AI technologies and dividing by the number of technologies covered. As a result, the company-wide exclusivity value corresponds to a scale of 1 to 5. A value of 1 indicates low exclusivity and a value of 5 indicates high exclusivity. This scale represents the "AI-Technology Investment Exclusivity".

The fifth dimension (speed of investment and acquisition activity related to AI technology assets) is determined by the timing of a digital and media company's investment or acquisition in a technology relative to the first investment or acquisition in that technology within the top 64 digital and media companies analysed. This difference is measured in years. On this basis, the digital and media companies are classified according to Chan-Olmsted's (2006) typology of media technology adoption, which in turn draws on Rogers' model (2003) of a normally distributed adoption curve. Based on this distribution, digital and media companies were assigned a score between 1 and 5, depending on the time period for first activity in the respective AI technology, with a high score corresponding to very fast activity in AI technology and low scores corresponding to very slow activity. The mean of these scores was then calculated for each company, resulting in the "AI-Technology Investment Earliness".

Finally, the "AI-Technology Ownership Score" is derived by combining the measures of the five dimensions into a single score on a scale of 1 to 5, with 1 representing a low "AI-Technology Ownership Score" and 5 representing a high "AI-Technology Ownership Score".

In order to answer the second research question regarding the patterns or clusters of AI technology investment and acquisition strategies, a hierarchical cluster analysis (Ward's method) was conducted in order to identify patterns. The formation of such clusters enables

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

the grouping of companies that display analogous behavioural patterns across the dimensions within a cluster, while simultaneously distinguishing themselves from the other clusters. Consequently, each cluster is characterised by a distinct mean value for each of the five dimensions.

4. Analysis and Results

4.1. *Which of the major digital and media companies have a high "AI-Technology Ownership Score"?*

An examination of the "AI-Technology Ownership Score" (Table 1) indicates which companies are the current and future leaders in AI technology and markets, as well as those with the most extensive involvement in this field. The highest "AI-Technology Ownership Score" is held by Alphabet (TOS: 4.55) and Microsoft (TOS: 4.52), while the third-ranked Amazon (TOS: 3.92) is situated at a considerable distance behind the top two. A further analysis of the companies in the top 10 reveals a predominance of the large digital conglomerates. Furthermore, other notable corporations such as Bloomberg, Sony, and Comcast are also included within the top 10, although they exhibit a notable discrepancy to the third position. Occupying the 14th and 15th position, the so-called "legacy media" companies Bertelsmann and Axel Springer appear to have undergone a transformation of their traditional core businesses, or of being in the process of such a transformation while they seem to be very active in the field of AI. Other companies classified as "legacy media", such as Walt Disney, Warner Music Group, Pearson, and Warner Bros. Discovery, rank only at mid-level, while News Corp. and Universal Music Group are positioned among the lowest tiers of the rankings. The cases of Spotify and Netflix illustrate that not all new digital corporations are assuming leading roles in "AI-Technology Ownership".

Table 1. Results "AI-Technology Ownership Score" (TOS) and five dimensions ("Scope", "Breadth/Variety", "Depth", "Exclusivity", "Earliness")

	Digital and Media Company	AI-Technology Investment Scope (1=low scope, 5=high scope; absolute values in brackets)	AI-Technology Investment Breadth/ Variety (1=low variety, 5=high variety; absolute values in brackets)	AI-Technology Investment Depth (1=low depth, 5=high depth)	AI-Technology Investment Exclusivity (1=low exclusivity, 5=high exclusivity)	AI-Technology Investment Earliness (1=very late, 5=very early)	AI-Technology Ownership Score (1=very low TOS, 5=very high TOS)
1	Alphabet	5 (675)	5 (13)	5	3.77	4	4.55
2	Microsoft	5 (282)	5 (13)	5	3.60	4	4.52
3	Amazon	4 (126)	5 (13)	4	3.58	3	3.92
4	Bloomberg	4 (98)	4 (10)	4	2.10	4	3.62
5	Alibaba Group	4 (76)	4 (9)	4	2.87	3	3.57
6	Sony	4 (61)	4 (10)	3	2.29	4	3.46
7	Tencent	4 (105)	4 (11)	4	2.24	3	3.45
8	Baidu	4 (84)	4 (11)	3	2.83	3	3.37
9	Apple	3 (33)	4 (9)	2	4.71	3	3.34
10	Comcast	4 (61)	4 (9)	3	2.22	3	3.24
11	Meta	3 (25)	4 (9)	2	4.01	3	3.20
12	Verizon Media	3 (16)	2 (5)	2	4.95	4	3.19
13	Bertelsmann	4 (50)	3 (8)	3	2.17	3	3.03
14	Axel Springer	3 (14)	3 (6)	2	3.33	3	2.87
15	Thomson Reuters	3 (16)	3 (6)	2	3.13	3	2.83
16	S&P Global	3 (15)	2 (5)	2	3.82	3	2.76
17	RELX	3 (17)	2 (5)	2	2.39	4	2.68

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

18	Hearst Communications	3 (25)	2 (4)	3	2.07	3	2.61
19	Electronic Arts	1 (1)	1 (1)	1	5.00	5	2.60
20	X (formerly Twitter)	2 (10)	2 (5)	2	3.55	3	2.51
21	Nielsen	2 (6)	2 (5)	1	4.47	3	2.49
22	The Walt Disney Company	2 (10)	2 (3)	2	3.14	3	2.43
23	ByteDance	3 (21)	2 (4)	2	3.10	2	2.42
24	Nintendo	1 (1)	1 (1)	1	4.00	5	2.40
25	Warner Music Group	3 (13)	2 (3)	2	2.33	2	2.27
26	FactSet	2 (5)	1 (2)	2	4.25	2	2.25
27	Holtzbrinck Publishing Group	1 (2)	2 (3)	1	4.00	3	2.20
28	Pearson	2 (5)	2 (3)	1	3.67	2	2.13
29	Warner Bros. Discovery	1 (2)	1 (2)	1	3.50	4	2.10
30	Snap	2 (5)	1 (2)	2	4.12	1	2.02
31	ITV	1 (1)	1 (1)	1	3.00	4	2.00
32	McGraw-Hill Education	1 (1)	1 (1)	1	5.00	2	2.00
33	MFE - MediaForEurope	1 (1)	1 (1)	1	2.00	5	2.00
34	Nexon	1 (1)	1 (1)	1	3.00	4	2.00
35	Roblox	1 (2)	1 (2)	1	5.00	2	2.00
36	Wolters Kluwer	1 (2)	1 (2)	1	5.00	2	2.00
37	Kuaishou Technology	2 (5)	2 (3)	1	2.89	2	1.98
38	Bonnier	2 (5)	1 (1)	2	2.80	2	1.96
39	Access Industries	2 (7)	2 (3)	2	1.67	2	1.93
40	NetEase	2 (5)	2 (5)	1	2.20	2	1.84
41	Advance	1 (2)	1 (2)	1	3.00	3	1.80
42	Charter Communications	1 (1)	1 (1)	1	4.00	2	1.80
43	Pinterest	1 (3)	1 (2)	1	4.00	2	1.80
44	Qurate Retail	1 (1)	2 (3)	1	2.00	3	1.80
45	Rogers Communications	1 (1)	1 (1)	1	2.00	4	1.80
46	Sega Sammy Holdings Inc.	1 (1)	1 (2)	1	3.00	3	1.80
47	Sinclair Broadcast	1 (2)	1 (1)	1	4.00	2	1.80
48	Spotify	1 (2)	1 (2)	1	5.00	1	1.80
49	Liberty Media	2 (6)	2 (4)	1	1.75	2	1.75
50	Quebecor	1 (3)	1 (2)	1	3.00	2	1.60
51	TV Asahi	1 (1)	1 (1)	1	3.00	2	1.60
52	37 Interactive Entertainment	1 (3)	1 (2)	1	2.75	2	1.55
53	News Corp.	1 (3)	1 (2)	1	2.50	2	1.50
54	Nikkei	1 (2)	1 (1)	1	3.50	1	1.50
55	Hubert Burda Media	1 (2)	2 (4)	1	1.25	2	1.45
56	IAC	1 (2)	1 (2)	1	3.00	1	1.40
57	TBS Holdings	1 (2)	1 (1)	1	3.00	1	1.40
58	TF1 Group	1 (1)	1 (1)	1	2.00	2	1.40
59	Bilibili	1 (2)	1 (1)	1	2.50	1	1.30
60	iHeartMedia	1 (1)	1 (1)	1	2.00	1	1.20
61	Informa	1 (1)	1 (1)	1	2.00	1	1.20
62	Universal Music Group	1 (1)	1 (1)	1	1.00	2	1.20
63	Netflix	1 (2)	1 (1)	1	1.50	1	1.10
64	Square Enix	1 (2)	1 (2)	1	1.50	1	1.10

Source: own elaboration.

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

4.2. *How do these large digital and media companies position themselves in terms of "AI-Technology Ownership"?*

In the case of Microsoft and Alphabet, it can be observed that both companies achieve the highest values in four of the five dimensions (Table 2) of the "AI-Technology Ownership Score" ("AI-Technology Investment Scope"; "AI-Technology Investment Breadth/Variety", "AI-Technology Investment Depth", "AI-Technology Investment Exclusivity", "AI-Technology Investment Earliness"). They account for the vast majority of investment activities (investments and acquisitions), with Alphabet reaching a particularly elevated value (675 investment activities). Furthermore, they encompass 13 of the 14 examined AI technologies and demonstrate a consistently high level of technological depth in these 13 AI technologies through their investment activities. The two digital conglomerates are even in a position to adopt AI technologies at a slower pace than other companies, without compromising their leading position.

A comparative analysis of the examined companies reveals significant discrepancies in their approaches to AI technology investments. While Nielsen, ByteDance and The Walt Disney Company have a similar "AI-Technology Ownership Score", their performance differs markedly across the five considered dimensions.

In order to gain a nuanced understanding, it is advisable to compare the dimensions "AI-Technology Investment Breadth/Variety" and "AI-Technology Investment Depth" on the one hand, and "AI-Technology Investment Exclusivity" and "AI-Technology Investment Earliness" on the other. While the first view, when considered in combination with the "AI-Technology Investment Scope", allows for a differentiated examination of a company's AI investment portfolio (Figure 1), the second view (Figure 2) facilitates an understanding of the companies' actions with respect to their objective of potentially excluding competitors (i.e., acting rapidly and securing exclusive rights). Similarly, as seen before, the behaviour of the companies varies significantly across the different dimensions.

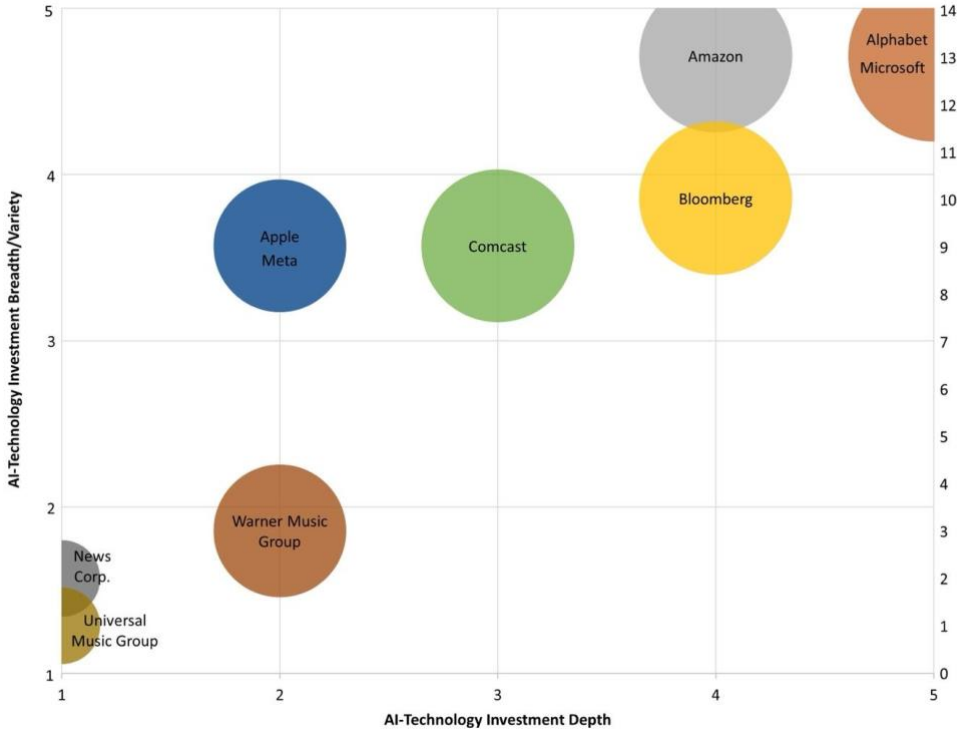
Examples: While Alphabet and Microsoft demonstrate high levels of investment breadth/variety and depth, others like Apple and Meta focus on fewer technologies with lower investment intensity. It is exactly the opposite with Warner Music Group and especially with News Corporation and Universal Music Group. These companies'-technology investment portfolio is neither broad nor deep. Having a broad range of different AI technologies in the portfolio (very diversified portfolio) plus being very deep into all these technologies at the same time means: leading the technology field.

There are also substantial differences with respect to investment exclusivity and earliness. Companies such as Alphabet, Microsoft and Bloomberg tend to act very early. But unlike Microsoft and Apple, Bloomberg is much less exclusive in its investment behaviour. Others like Universal Music Group are investing more reactive (late) and with a non-exclusive approach (via joint investments/as part of an investment consortium). Being fast/early plus exclusive means: Buying all available assets, letting others almost no chance to participate and/or to take action.

The occurrence of different behaviours in terms of the AI technology investment and portfolio raises the question of whether patterns can be identified in the strategic behaviour of the examined companies.

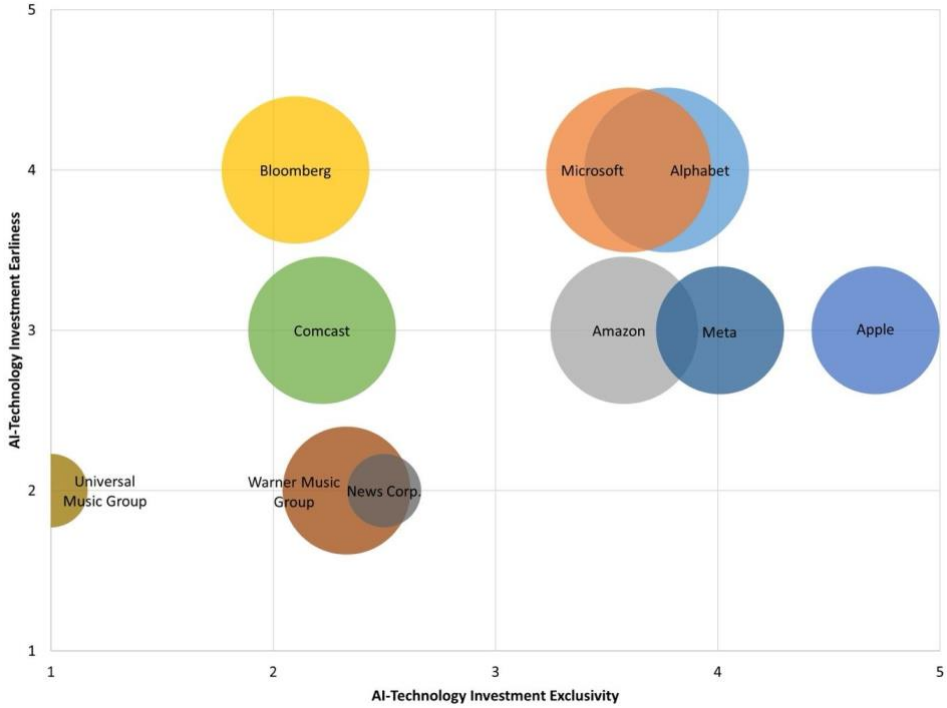
ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

Figure 1. Matrix/Portfolio "AI-Technology Investment Breadth/Variety" and "AI-Technology Investment Depth", selected cases (size of the bubbles represents "AI-Technology Investment Scope")



Source: own elaboration.

Figure 2. Matrix/Portfolio "AI-Technology Investment Exclusivity" and "AI-Technology Investment Earliness", selected cases (size of the bubbles represents "AI-Technology Investment Scope")



Source: own elaboration.

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

4.3. *Are there any patterns or clusters of AI technology investment/acquisition strategies*

The application of a hierarchical cluster analysis (using Ward's method and the Elbow criterion to determine the optimal number of clusters) resulted in the identification of five clusters, which proved to be both useful and reasonable. The five clusters, along with their respective mean values for the five dimensions used to describe them, are presented in Table 2. Additionally, the table lists the number of cases and the companies assigned to each cluster.

Table 2. Results cluster analysis (cluster mean values across "Scope", "Breadth/Variety", "Depth", "Exclusivity", "Earliness", "Technology Ownership Score") and cluster assignment of the companies

Cluster	AI-Technology Investment Scope	AI-Technology Investment Breadth /Variety	AI-Technology Investment Depth	AI-Technology Investment Exclusivity	AI-Technology Investment Earliness	AI-Technology Ownership Score (TOS)	Nº of Cases	Companies
Cluster 1	4.67	5.00	4.67	3.65	3.67	4.07	3	Alphabet, Amazon, Microsoft
Cluster 2	3.78	3.89	3.11	2.83	3.22	3.43	9	Alibaba Group, Apple, Baidu, Bertelsmann, Bloomberg, Comcast, Meta, Sony, Tencent
Cluster 3	2.50	2.14	1.79	2.86	2.71	2.46	14	Access Industries, Axel Springer, ByteDance, Hearst Communications, Hubert Burda Media, Liberty Media, NetEase, Nielsen, RELX, S&P Global, Thomson Reuters, Verizon Media, Warner Music Group, X
Cluster 4	1.00	1.00	1.00	3.21	4.43	2.04	7	Electronic Arts, ITV, MFE - MediaForEurope, Nexon, Nintendo, Rogers Communications, Warner Bros. Discovery
Cluster 5	1.19	1.16	1.13	3.17	1.84	1.63	31	37 Interactive Entertainment, Advance, Bilibili, Bonnier, Charter Communications, FactSet, Holtzbrinck Publishing Group, IAC, iHeartMedia, Informa, Kuaishou Technology, McGraw-Hill Education, Netflix, News Corp., Nikkei, Pearson, Pinterest, Quebecor, Qurate Retail, Roblox, Sega Sammy Holdings Inc., Sinclair Broadcast, Snap, Spotify, Square Enix, TBS Holdings, TF1 Group, The Walt Disney Company, TV Asahi, Universal Music Group, Wolters Kluwer

Source: own elaboration.

The clusters are visualised in Figure 3, which allows to identify a clear differentiation between them. They can be interpreted and characterised based on their respective attributes in the five dimensions ("Scope", "Breadth/Variety", "Depth", "Exclusivity", "Earliness"):

- Cluster 1 is characterised by the highest values in "Scope", "Breadth/Variety", and "Depth", as well as in "Exclusivity"—and the companies assigned to the cluster are acting comparably early with their technology investments. In sum, this behaviour is

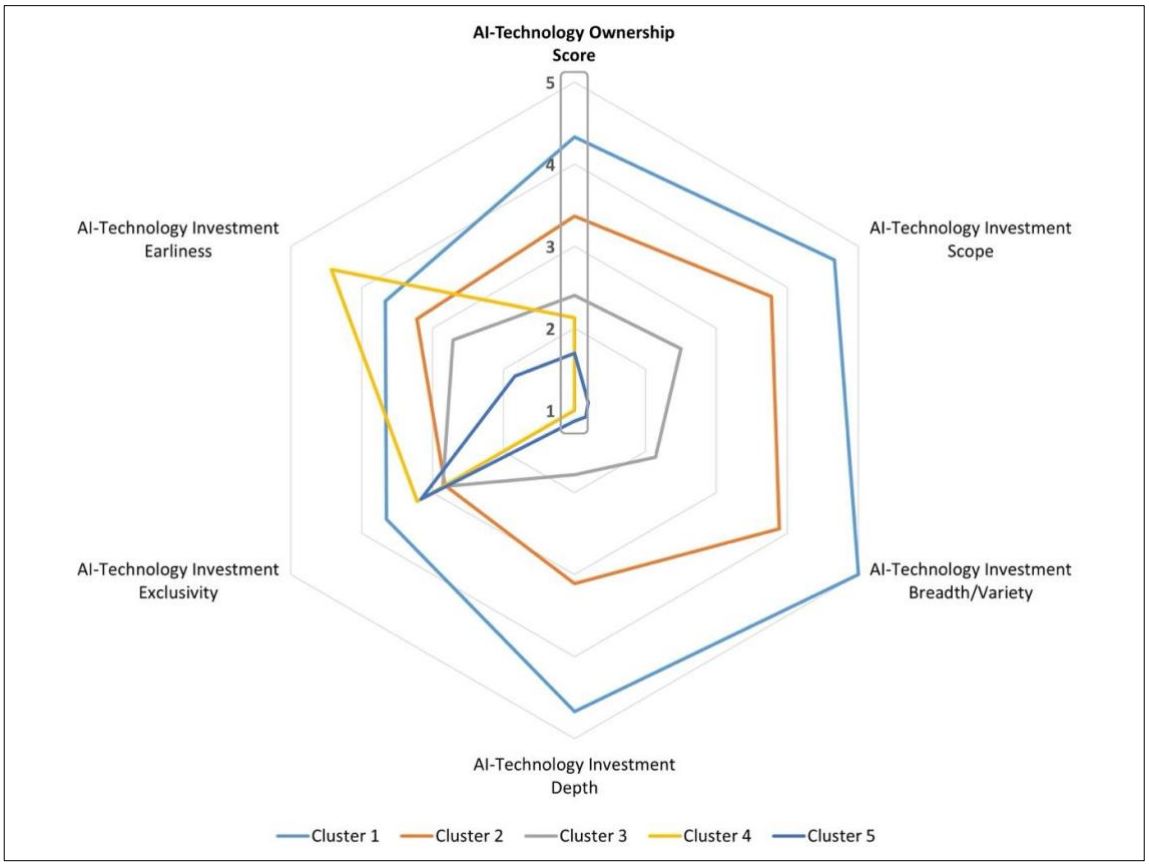
ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

resulting in the highest "AI-Technology Ownership Score". The cluster can therefore be described as "Technology Leaders," with the associated companies heavily investing in AI technologies, possessing the power to shape AI technology and markets, and undoubtedly having a transformational impact on the further development of the technology. A total of three companies are assigned to this cluster. The considerable market influence of the organisations within this cluster is apparent from both the elevated number of investment activities they perform (as indicated by "Scope") and the elevated "AI-Technology Investment Exclusivity". Consequently, competitors are not only excluded from AI technologies by the substantial quantities of acquired AI technologies, but in the majority of cases also because this occurs frequently through acquisitions and even in the case of investments quite exclusively, with a minimum number of other investors.

- Cluster 2 is characterised by a high number of AI investment activities. A broad variety across many AI technologies with simultaneous depth in all of these technologies is recognisable. In terms of "Scope", "Breadth/Variety" and "Depth", the cluster is situated right behind the "Technology Leaders". In terms of earliness the companies assigned to this cluster are second or even third movers. The mean value of the "AI-Technology Ownership Score" for this cluster is also second to the "Technology Leaders" cluster. It can therefore be characterised as "Endeavoured Second Players" cluster, with the associated companies actively and selectively investing in AI technologies in order to catch up with the leading companies, while having the opportunity to achieve a transformative impact on the further development of the technology. A total of nine companies are assigned to this cluster.
- Cluster 3 is characterised by a low to moderate number of AI investment activities. A selective, focused investment behaviour on individual AI technologies is visible. The cluster can therefore be described as "Selective Followers", with the associated companies focusing on a few AI technology fields. A total of 14 companies are assigned to this cluster.
- Cluster 4 is characterised by an extremely low number of investments activities and an extremely selective and focused AI investment behaviour (investment portfolio neither broad nor deep). It is noteworthy that the companies in this cluster are active at a very early stage and very rapidly— with the highest value in "AI-Technology Investment Earliness—among their few AI investment activities. The cluster can therefore be characterised as "Selective First Adaptors", with the associated companies exhibiting a highly selective investment approach and a low level of commitment to AI investments. A total of seven companies are included in this cluster.
- Cluster 5 is characterised by a very low number of AI investment activities, and very low measures in "Breadth/Variety" and "Depth" of the AI investment portfolio (comparable with cluster 4). But the companies in cluster 5 show up with the slowest response of all clusters in terms of "Earliness". The mean value of the "AI-Technology Ownership Score" here is the lowest of all clusters. The cluster can therefore be labelled and described as "Focussed Laggards", with the associated companies hardly investing in any of the AI technology fields and in most cases showing no influence on the further development of the technology. A total of 31 companies are assigned to this cluster.

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

Figure 3. Radar chart to visualise the five clusters (with values for "Scope", "Breadth/Variety", "Depth", "Exclusivity", "Earliness" and "Technology Ownership Score")



Source: own elaboration.

5. Limitations and Discussion

The study offers valuable insights but is subject to several limitations. First, the data is drawn from Crunchbase, which, although extensive, may not capture all investment activities, particularly those that remain undisclosed. Nonetheless, the inclusion of a large volume (almost 2,000) of investment activities in this study helps to mitigate this limitation. Second, in the end, the study only included data from 64 large digital and media companies, which at first glance appears to be a comparatively small sample. Again, the almost 2,000 investment activities should mitigate this limitation. Third, the categorization of technologies in (General) "Artificial Intelligence" and "Machine Learning" is quite broad, leaving the specific applications of these technologies unclear. Fourth, the perspective of "Technology Ownership" adopted here only considers the external purchase of various technology assets (e.g. technology systems, technology applications, technology expertise, technology patents). It does not take into account the fact that companies can also develop technology assets based on their own R&D activities. In the case under consideration here, these are in particular the large digital corporations that can also develop the relevant expertise, applications and systems internally. Thus, there might be substantial activities with strong market influence not recognised by the "Technology Ownership Score". However, since the in-house development of AI know-how and assets generally takes longer than investments or acquisitions, and only the large digital corporations are likely to be in a position to do so anyway, results and consequences might remain the same: Legacy media will be affected by

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

an "AI-technology dependency"—in other words, they will be dependent on the leading digital and AI players (Eder & Sjøvaag, 2025). Fifth, the absence of more detailed data on investment and acquisition volumes and other characteristics of the investment or acquisition object (e.g. number of patents hold by the acquired company, market share of the acquired company) limits the ability to draw more precise conclusions about the relevance of individual AI assets and thus cannot be considered within the five dimensions of the "Technology Ownership Score". Sixth, the behaviour of companies is considered and analysed over a period of 23 years, and as such is seen as a constant strategy. Of course, it is clear that over such a long period, there have been various strategy changes with regard to AI. Seventh, it remains to be seen whether low scores in the "AI-Technology Investment Scope" (i.e. a very low number of investments and/or acquisitions) generally lead to lower scores in other four dimensions and thus also in the "AI-Technology Ownership Score". It would therefore be necessary to examine the extent to which the dimensions are truly independent of one another.

Despite the limitations mentioned, the article provides a range of interesting and helpful insights, both conceptually and descriptively-empirically.

It is not surprising that Alphabet and Microsoft have the highest "AI-Technology Ownership Scores". However, other results (e.g. Bloomberg or Comcast) suggest that the "AI-Technology Ownership Score", together with its five dimensions, does indeed provide a differentiated picture of companies' technology investment behaviour. In addition, the five differentiated clusters can be used to describe patterns in companies' behaviour with regard to AI investment activities.

Two aspects in particular can be identified as insights for the future of the media industry: (1) The large digital corporations (GAFAM) also play a dominant role in the field of AI. Not only do these companies often invest in AI companies and start-ups, they also frequently acquire them, leaving hardly any opportunities for other companies. In addition, they usually do this very exclusively, i.e. without involving other companies. Clearly, they don't even have to be the fastest/earliest to invest and/or acquire. This leads to the result that Dolata (2017) has already formulated: The GAFAM corporations pursue (in the technology sector, and now proven here in particular also in AI) an aggressive acquisition strategy with which they prevent (others from) competition. (2) The concern that "legacy media" companies cannot afford to play along with digital conglomerates in the field of AI has been substantiated. In order to remain competitive within their own core business, they will be reliant on the large digital conglomerates. What has already begun in the online and social media world will be further intensified by AI.

In light of these findings, first, it is necessary to determine which assets are still possessed by "legacy media". It would appear that their most significant asset at this time is content or rather the production of new content, given its importance for the further development and training of AI systems. However, it is unclear whether this will ultimately prove a strong asset for traditional media companies, or whether they will become dependent on large digital conglomerates to a greater extent than is currently the case.

Even though the results of this study are mainly descriptive in nature, this study provides other companies orientation for their day-to-day practice in making technology investment decisions. Based on the behaviour of 64 digital and media companies described here, managers and technology decision-makers can develop their own positioning for their company. This is particularly possible using the five dimensions presented ("Technology Investment Scope", "Technology Investment Breadth/Variety", "Technology Investment Depth", "Technology Investment Exclusivity", "Technology Investment Earliness").

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224

For the scientific community, the concept of "Technology Ownership" can enhance the discussion in fields like technology management, technology portfolio management, risk management and media management in general. Both the conceptual considerations and the analysis and its results have created a basis for further research: the concept of "Technology Ownership" and the five dimensions can be refined and expanded. The exploratory study can be the basis for further empirical studies to test hypotheses.

It would be particularly attractive to examine if and how the "Technology Ownership Score" and its five dimensions affect several measures of corporate success.

In light of the contributions to practice and science, as well as the potential for future research, the "Technology Ownership Score" offers a promising and valuable perspective on the discourse regarding the influence of technology on media ownership.

References

Agrawal, A., Gans, J. S., & Goldfarb, A. (2019). Exploring the Impact of Artificial Intelligence: Prediction versus Judgment. Information Economics and Policy, 47, 1–6. https://doi.org/10.1016/j.infoecopol.2019.05.001

Alferyev, D., & Khusainova, E. (2020). AI Technologies as a Factor of Competitiveness of a Business Entity at the Present Stage of Human Development. E3S Web of Conferences, 220, 01006. https://doi.org/10.1051/e3sconf/202022001006

Asija, A., Moreira, S., Ringov, D., & Soares, T. J. (2024). Fragmentation of Technology Ownership and Acquisition Strategy of Firms. British Journal of Management, 35(3), 1392–1407. https://doi.org/10.1111/1467-8551.12762

Babina, T., Fedyk, A., He, A., & Hodson, J. (2024). Artificial Intelligence, Firm Growth, and Product Innovation. Journal of Financial Economics, 151, 103745. https://doi.org/10.1016/j.jfineco.2023.103745

Bender, M. S., Choi, J., Arai, S., Paul, S. M., Gonzalez, P., & Fukuoka, Y. (2014). Digital Technology Ownership, Usage, and Factors Predicting Downloading Health Apps Among Caucasian, Filipino, Korean, and Latino Americans: The Digital Link to Health Survey. JMIR mHealth and uHealth, 2(4), e43. https://doi.org/10.2196/mhealth.3710

Booz, A., Allen, J., & Hamilton, C. (1985). Diversification: A Survey of European Chief Executives. Booz, Allen and Hamilton, Inc.

Buzzetto-More, N. A., & Sweat-Guy, R. (2007). The Technology Ownership and Information Acquisition Habits of HBCU Freshmen. Interdisciplinary Journal of Information, Knowledge & Management, 2.

Caviggioli, F., De Marco, A., Scellato, G., & Ughetto, E. (2017). Corporate Strategies for Technology Acquisition: Evidence from Patent Transactions. Management Decision, 55(6), 1163–1181. https://doi.org/10.1108/MD-04-2016-0220

Chan-Olmsted, S. M. (2006). Issues in Media Management and Technology. In A. B. Albarran, S. M. Chan-Olmsted, & M. O. Wirth (Eds.), Handbook of Media Management and Economics (pp. 259–281). L. Erlbaum Associates.

Chan-Olmsted, S. M. (2019). A Review of Artificial Intelligence Adoptions in the Media Industry. International Journal on Media Management, 21(3–4), 193–215. https://doi.org/10.1080/14241277.2019.1695619

Covington, P., Adams, J., & Sargin, E. (2016). Deep Neural Networks for YouTube Recommendations. Proceedings of the 10th ACM Conference on Recommender Systems, 191–198. https://doi.org/10.1145/2959100.2959190

Dalle, J.-M., Den Besten, M., & Menon, C. (2017). Using Crunchbase for Economic and Managerial Research (OECD Science, Technology and Industry Working Papers 2017/08). OECD Publishing. https://doi.org/10.1787/6c418d60-en

Davenport, T. H., & Mittal, N. (2023). How Companies can Prepare for the Coming "AI-First" World. Strategy & Leadership, 51(1), 26–30. https://doi.org/10.1108/SL-11-2022-0107

de-Lima-Santos, M.-F., & Ceron, W. (2021). Artificial Intelligence in News Media: Current Perceptions and Future Outlook. Journalism and Media, 3(1), 13–26. https://doi.org/10.3390/journalmedia3010002

Den Besten, M. L. (2020). Crunchbase Research: Monitoring Entrepreneurship Research in the Age of Big Data. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3724395

Dijck, J. van, Poell, T., & Waal, M. de. (2018). The Platform Society: Public Values in a Connective World. Oxford University Press.

Dolata, U. (2017). Apple, Amazon, Google, Facebook, Microsoft: Market Concentration-Competition-Innovation Strategies. SOI Discussion Paper.

Doyle, G. (2014). Media Ownership: Diversity Versus Efficiency in a Changing Technological Environment. In Handbook of the Economics of Art and Culture (Vol. 2, pp. 357–377). Elsevier. https://doi.org/10.1016/B978-0-444-53776-8.00014-3

Eder, M., & Sjøvaag, H. (2025). Falling Behind the Adoption Curve: Local Journalism's Struggle for Innovation in the AI Transformation. Journal of Media Business Studies, 1–19. https://doi.org/10.1080/16522354.2025.2473301

Eisenbeis, U. (2022). Technologieinvestitionsstrategien als Herausforderung für die Risikosteuerung [Technology Investment Strategies as a Challenge for Risk Management]. In A. Wiedemann, V. Stein, & M. Fonseca (Eds.), Risk Governance in Organizations: Future Perspectives (pp. 444–450). universi - Universitätsverlag Siegen.

Eisenbeis, U., & Ciepluch, M. (Eds.). (2021). Künstliche Intelligenz in Nachrichtenredaktionen: Begriffe, Systematisierung, Fallbeispiele [Artificial Intelligence in Newsrooms: Terms, systematisation, case studies]. UVK Verlag.

Eisenbeis, U., & Ciepluch, M. (2023). Technology Acquisitions as the New Power. An Approach on How Gafam have Managed to Win the War for Innovation, The War for Patents, the war for Talents, and the War for Data. European Realities - Power: Conference Proceedings 5th International Scientific Conference. European Realities - Power: 5th International Scientific Conference. https://doi.org/10.59014/XVQT4385

eMarketer. (2018). Ways in which News Publishers Worldwide are Using Artificial Intelligence (AI), Dec 2017 (% of Respondents). Insider Intelligence. https://www.emarketer.com/chart/216038/ways-which-news-publishers-worldwide-using-artificial-intelligence-ai-dec-2017-of-respondents

Garcia-Vega, M. (2006). Does Technological Diversification Promote Innovation? Research Policy, 35(2), 230–246. https://doi.org/10.1016/j.respol.2005.09.006

Gawer, A., & Cusumano, M. A. (2014). Industry Platforms and Ecosystem Innovation. Journal of Product Innovation Management, 31(3), 417–433. https://doi.org/10.1111/jpim.12105

Gentzkow, M. (2018). Media and Artificial Intelligence. Toulouse Network for Information Technology Whitepaper.

Gilbert, J. T., & Birnbaum-More, P. H. (1996). Innovation Timing Advantages: From Economic Theory to Strategic Application. Journal of Engineering and Technology Management, 12(4), 245–266.

Gomez-Uribe, C. A., & Hunt, N. (2016). The Netflix Recommender System: Algorithms, Business Value, and Innovation. ACM Transactions on Management Information Systems, 6(4), 1–19. https://doi.org/10.1145/2843948

Gómez-Villanueva, J. E., & Ramírez-Solís, E. R. (2013). Is there a Real Pioneer's Advantage? Lessons Learned after almost Thirty Years of Research. Academy of Strategic Management Journal, 12(2), 31.

Gonzenbach, I., Russ, C., & Vom Brocke, J. (2014). Make or Buy? Factors that Impact the Adoption of Cloud Computing on the Content Level. In J. Vom Brocke & A. Simons (Eds.), Enterprise Content Management in Information Systems Research (pp. 145–161). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-39715-8_9

Günther, W. A., Mehrizi, M. H. R., Huysman, M., & Feldberg, F. (2017). Debating Big Data: A Literature Review on Realizing Value from Big Data. The Journal of Strategic Information Systems, 26(3), 191–209.

Harrison, J., & Woods, L. (2007). European Broadcasting Law and Policy (1st ed.). Cambridge University Press. https://doi.org/10.1017/CBO9780511495298

Horska, K. (2020). A New Test of Artificial Intelligence: Should the Media Industry Be Afraid? Science and Education a New Dimension, VIII (231) (39), 26–29. https://doi.org/10.31174/SEND-HS2020-231VIII39-06

Institut für Medien- und Kommunikationspolitik. (2024, April 23). Die 100 größten Medien- und Wissenskonzerne der Welt (2023). Mediendatenbank - mediadb.eu. https://mediadb.eu/die-grosten-medienkonzerne/

Kamin, S. T., & Lang, F. R. (2016). Cognitive Functions Buffer Age Differences in Technology Ownership. Gerontology, 62(2), 238–246. https://doi.org/10.1159/000437322

Kenney, M., & Zysman, J. (2016). The Rise of the Platform Economy. Issues in Science and Technology, 32(3), 61–69.

Kim, K., Hwang, J., Jung, S., & Kim, E. (2019). Which Technology Diversification Index Should be Selected?: Insights for Diversification Perspectives. Cogent Business & Management, 6(1), 1643519. https://doi.org/10.1080/23311975.2019.1643519

Lee, J., Suh, T., Roy, D., & Baucus, M. (2019). Emerging Technology and Business Model Innovation: The Case of Artificial Intelligence. Journal of Open Innovation: Technology, Market, and Complexity, 5(3), 44. https://doi.org/10.3390/joitmc5030044

Leung, J. (2019). Who will Govern Artificial Intelligence? Learning from the History of Strategic Politics in Emerging Technologies [PhD Thesis]. University of Oxford.

Lieberman, M. B., & Montgomery, D. B. (1988). First-Mover Advantages. Strategic Management Journal, 9(1), 41–58. https://doi.org/10.1002/smj.4250090706

Lin, B.-W., Chen, C.-J., & Wu, H.-L. (2006). Patent Portfolio Diversity, Technology Strategy, and Firm Value. IEEE Transactions on Engineering Management, 53(1), 17–26.

Lin, B.-W., & Chen, J.-S. (2005). Corporate Technology Portfolios and R&D Performance Measures: A Study of Technology Intensive Firms. R and D Management, 35(2), 157–170. https://doi.org/10.1111/j.1467-9310.2005.00380.x

Marinchak, C. M., Forrest, E., & Hoanca, B. (2018). Artificial Intelligence: Redefining Marketing Management and the Customer Experience. International Journal of E-Entrepreneurship and Innovation, 8(2), 14–24. https://doi.org/10.4018/IJEEI.2018070102

Markides, C. C., & Williamson, P. J. (1996). Corporate Diversification and Organizational Structure: A Resource-Based View. Academy of Management Journal, 39(2), 340–367. https://doi.org/10.2307/256783

McKinsey Global Institute. (2018). Notes from the AI Frontier. Insights from Hundreds of Use Cases [Discussion Paper]. McKinsey&Company.

Miles, R. E., & Snow, C. C. (1978). Organizational Strategy, Structure, and Process. Academy of Management Review, 3(3). https://doi.org/10.5465/amr.1978.4305755

Nafizah, U. Y., Roper, S., & Mole, K. (2024). Estimating the Innovation Benefits of First-Mover and Second-Mover Strategies when Micro-Businesses Adopt Artificial Intelligence and Machine Learning. Small Business Economics, 62(1), 411–434. https://doi.org/10.1007/s11187-023-00779-x

Napoli, P. M. (2014). On Automation in Media Industries: Integrating Algorithmic Media Production into Media Industries Scholarship. Media Industries Journal, 1(1), 33–38. https://doi.org/10.3998/mij.15031809.0001.107

OECD. (2020). Identifying and Measuring Developments in Artificial Intelligence: Making the Impossible Possible (OECD Science, Technology and Industry Working Papers 2020/05). https://www.oecd-ilibrary.org/science-and-technology/identifying-and-measuring-developments-in-artificial-intelligence_5f65ff7e-en

PricewaterhouseCoopers. (2024). Perspectives: Global Entertainment & Media Outlook 2024–2028. PwC. https://www.pwc.com/gx/en/issues/business-model-reinvention/outlook/insights-and-perspectives.html

Pugliese, E., Napolitano, L., Zaccaria, A., & Pietronero, L. (2019). Coherent Diversification in Corporate Technological Portfolios. PLOS ONE, 14(10), e0223403. https://doi.org/10.1371/journal.pone.0223403

Ramanujam, V., & Varadarajan, P. (1989). Research on Corporate Diversification: A Synthesis. Strategic Management Journal, 10(6), 523–551.

Rogers, E. M. (2003). Diffusion of Innovations. Free Press.

Rubab, S. A. (2023). Impact of AI on Business Growth. The Business and Management Review, 14(02). https://doi.org/10.24052/BMR/V14NU02/ART-24

Scholz, C. (1987). Strategisches Management: Ein integrativer Ansatz. W. de Gruyter.

Scholz, C. (2000). Strategische Organisation: Multiperspektivität und Virtualität [Strategic organization: Multi-perspectivity and virtuality]. Verl. Moderne Industrie.

Shad, G., & Chanduka, R. (2017). Cloud: Build vs. Buy? Make an Informed and Intelligent Decision. International Journal of Engineering Research & Technology, 6(2), 336–342.

Shapiro, C., & Varian, H. R. (2010). Information Rules: A Strategic Guide to the Network Economy (Nachdr.). Harvard Business School Press.

Sjurts, I. (2005). Strategien in der Medienbranche: Grundlagen und Fallbeispiele [Strategies in the media industry: basics and case studies]. Gabler.

Stirling, A. (2007). A General Framework for Analysing Diversity in Science, Technology and Society. Journal of The Royal Society Interface, 4(15), 707–719. https://doi.org/10.1098/rsif.2007.0213

Trattner, C., Jannach, D., Motta, E., Costera Meijer, I., Diakopoulos, N., Elahi, M., Opdahl, A. L., Tessem, B., Borch, N., Fjeld, M., Øvrelid, L., De Smedt, K., & Moe, H. (2022). Responsible Media Technology and AI: Challenges and Research Directions. AI and Ethics, 2(4), 585–594. https://doi.org/10.1007/s43681-021-00126-4

van Kranenburg, H., Hagedoorn, J., & Pennings, J. (2004). Measurement of International and Product Diversification in the Publishing Industry. Journal of Media Economics, 17(2), 87–104. ufh.

Verdegem, P. (Ed.). (2021). AI for Everyone? Critical Perspectives. University of Westminster Press. https://doi.org/10.16997/book55

Wiedemann, A., & Dielmann, J.-P. (2020). Die Route wird berechnet – Mit welchen Visionen Google, Amazon, Facebook und Apple unsere Gegenwart und Zukunft formen. In G. Hoch, H. Schröteler-von Brandt, A. Schwarz, & V. Stein (Eds.), Vision (1st ed., pp. 139–160). V&R unipress. https://doi.org/10.14220/9783737012294.139

Winseck, D. (2008). The State of Media Ownership and Media Markets: Competition or Concentration and Why Should We Care? Sociology Compass, 2(1), 34–47. https://doi.org/10.1111/j.1751-9020.2007.00061.x

Wright, P., Kroll, M., Lado, A., & Van Ness, B. (2002). The Structure of Ownership and Corporate Acquisition Strategies. Strategic Management Journal, 23(1), 41–53. k

Żbikowski, K., & Antosiuk, P. (2021). A Machine Learning, Bias-Free Approach for Predicting Business Success Using Crunchbase Data. Information Processing & Management, 58(4), 102555. https://doi.org/10.1016/j.ipm.2021.102555

Ziedonis, R. H. (2004). Don't Fence Me In: Fragmented Markets for Technology and the Patent Acquisition Strategies of Firms. Management Science, 50(6), 804–820.

ISSN 2386-7876 – © 2026 Communication & Society, 39(1), 205-224