



Public Relations and Corporate Reputation in The Era of Industrial 4.0: A Systematic Literature Review

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ABSTRACT

The most important topic in corporate studies is public relations (PR) and/or corporate reputation, which informs relevant stakeholders about present and future business activities. Relying on traditional channels would be considered foolish in the digitalization era or Industrial 4.0 since corporate information sent through these channels is slow in comparison to the quick processes via social media. By spotting patterns in research and publication production, the study seeks to investigate and provide light on corporate reputation in the age of industrial 4.0. To identify the rising themes of corporate reputation, a systematic literature review (SLR) was conducted utilizing bibliometric analysis of previous studies from 2010 to 2022. Western countries were shown to be still the most productive nations in research of this field in 2011. The bibliometric analysis's conclusions also suggested that corporate image, credibility, engagement, and crisis communication might be new research topics. Therefore, after identifying several possible themes to be further evaluated related business reputation in 14.0 in subsequent research, this study offers insightful information to scholars and practitioners.

Keywords: Industry 4.0, corporate reputation, systematic literature review, bibliometric analysis

INTRODUCTION

The significance of considering business strategies, policies, and activities while building a company's reputation has significantly increased in the digital age. Individual and corporate levels have seen further changes as a result of the Industrial 4.0 phenomena of corporate reputation. Companies must use reputational news and activities appropriately at the company level in order to foster a favorable corporate image (Cerdeira Suarez et al., 2020). Additionally, the rise in social and digital media activity has given modern companies a new way to communicate with consumers and express their opinions on a range of social and political problems (Lim & Young, 2021). Additionally, public reputation can assist with economic sustainability and draw in foreign investment (Irfan et al., 2020).

Through individual familiarity, visibility, and promptness, corporate internal and external stakeholders would enhance the company reputation (Khan & Digout, 2018). Through individual familiarity, visibility, and promptness, corporate internal and external stakeholders would enhance the corporate reputation (Khan & Digout, 2018). Prominence describes a company's influence and impact through its own media, familiarity explains each member's level of understanding about the company they are a part of, and visibility is the

process by which stakeholders collectively become highly aware of company actions (Khan and Digout, 2018). Furthermore, a business with a high degree of positive reputation and highly performing personnel would have long-term competitive benefits (Ozcan and Elc Xi, 2020).

One of the key indications that stakeholders can use to find practical solutions in times of crisis is the company's reputation with the assistance of the public relations team. Understanding the effects of many facets of a company's reputation at the onset of a crisis was of special theoretical significance, according to Cerda Suarez et al. (2020). For example, the rapid growth of social media and the internet in recent years has changed the communication landscape, allowing stakeholders or customers to publicly express and publish their personal views about the company and its service or goods (Szwajca, 2017). The current study therefore suggested that, in addition to using social media as an extra avenue for business communication, companies should stress the value of managing company reputation by using it to establish and maintain a positive image.

On the one hand, company e-reputation would be influenced by customer interactions through digital and social media (Castellano & Khelladi, 2016). According to Foroudi and Montes (2017), the shift to online communication changed the dynamic between companies and their clients/customers because social media platforms like Facebook and Twitter had become important corporate communication media. Online reputation management would therefore include evaluating user-generated material, online communities, and underlying goals pertaining to company e-reputation. If a business receives negative feedback online, it is crucial to respond appropriately to address the issue. Additionally, share prices would be impacted by stakeholder forecasts and information distribution via online media (Rojas de-Gracia et al., 2021).

On the other hand, business online reputation management is becoming more crucial to boost financial performance (Ramos & Casado-Molina, 2021). For example, because internet comments are considered as intangible assets that impact a company's worth, they must be compiled, collected, and interpreted by the PR team. The measurement of online reputation is a highly significant indicator of a company's performance because the main objective of the intangible economy is to be detectable, measurable, and, in some cases, assessable via online reputation ratings (Ramos & Casado-Molina, 2021). Furthermore, the emergence of a virtual world brought about by the new media organizations has made the reputation of digital media a significant concern for companies' PR (Ramos & Casado-Molina, 2021). Therefore, comments or evaluations of a company in an online setting have a significant impact on companies and the market price that is supplied.

LITERATURE REVIEW

Justifications for the present investigation. This section outlines the justifications for evaluating corporate reputation in the context of Industrial 4.0 through a systematic literature review (SLR) using a bibliometric approach. A few domains, including 4.0, have not yet been thoroughly examined, according to earlier research and reviews on PR and corporate reputation studies (Gomez-Trujillo et al., 2020). For example, Walker's (2010)

review research, which studied the operationalization and definition of corporate reputation from 1980 to 2007, has several flaws, including poorly constructed search strings and no database for locating pertinent papers. In a similar vein, Money et al. (2017)'s review study lacked search terms and databases, and its applicability was constrained by the conceptualization of PR or corporate reputation, which failed to yield useful results.

Veh et al.'s (2019) bibliometric analysis used the Scopus database to try and determine the state of PR and corporate reputation management research. An extended search string was not constructed, even though the study contained company reputation research from a variety of previous studies in a comprehensive manner. Simultaneously, Gomez-Trujillo et al. (2020) failed to develop a search string for their SLR, which used the Web of Science (WOS) database to gather relevant articles to determine the causal relationship between sustainability and corporate reputation from 2000 to 2019. More journals in the Scopus database than in the WOS database were linked to the failed development (Block & Fisch, 2020; Sureka et al., 2022).

Following a review of previous studies, the idea of corporate reputation (Money et al., 2017; Veh et al., 2019; Walker, 2010) and its connection to sustainability (Gomez-Trujillo et al., 2020) received more attention than corporate reputation in the context of Industry 4.0. As a result, the current systematic review study is unique in a few ways. First, the focus of the study is on PR or corporate reputation in industrial 4.0, which would offer a comprehensive grasp of cutting-edge knowledge. Second, to give a thorough examination in determining the intellectual structure of the research topic, the methodology used in this work combines bibliometric analysis and SLR (Donthu et al., 2021). Additionally, previous literature review studies have shown a lack of use of rigorous research methods. Therefore, by putting out the following research questions, the current study seeks to close methodological and literature gaps:

RQ1: What is the current publication trend about company reputation in industrial 4.0?

RQ2: What are the most popular themes on company reputation among researchers?

METHODOLOGY

To accomplish its goals, the current study conducted a Systematic Literature Review (SLR). The SLR was put into place to allow the researcher to systematically classify the published works. Providing high-quality evidence while efficiently locating and assessing the body of current literature is the justification for using an SLR strategy (Ali & Johl, 2022). The final number of papers chosen would be the SLR's output. The bibliometric analysis was developed in the second phase to produce new themes for further study. The fundamental premise of the bibliometric analysis was that, in terms of descriptive analysis, the field of research was more than just a collection of random journals and papers (Inamdar et al., 2020). Additionally, the second phase employed standard methodologies that focused on the examination of individual citations, juxtaposed citations, and co-occurring terms.

Prior to determining the inclusion and exclusion criteria, the researcher determined the keywords and search strings needed to conduct the SLR (Tranfield et al., 2003). Because it has more coverage than other databases, the Scopus database was chosen. Consequently,

the Scopus database was used to find pertinent material in light of the scope and breadth. Two sets of keywords were created for the current study in order to gather research articles; the first group had to do with business reputation, while the second set contained industrial 4.0 keywords. The terms "corporate reputation," "firm reputation," "company reputation," "corporate image," "firm image," and "company image" were included in the first group. While "Industry 4.0," "Industrial Revolution 4.0," "digitalization," and "social media" made up the second group.

To extract the data, other keywords such as "online corporate reputation," "e-reputation," and "digital reputation" were also selected. At least one of the aforementioned expressions from both sets of terms must appear in the chosen articles. Six hundred and three articles were found in the first search using the keywords. Following the initial screening of the chosen documents, 157 articles were kept after taking into account the inclusion and exclusion criteria and eliminating duplicates. Following the second screening phase, 78 articles were determined to be suitable for additional examination. Ultimately, 54 papers were selected for the phase-2 study, or bibliometric analysis, by reapplying the inclusion and exclusion criteria.

ANALYSIS AND DISCUSSIONS

Publication trends about company reputation. In the current study, the theme progression of business reputation research in 4.0 was carried out using author key words as a unit of analysis. Three terms were identified as keywords in which the numerous research articles were case studies: media, engagement, and reputation (Ott & Theunissen, 2015; Rokka et al., 2014). Three different keywords were also identified: corporate, social, and analysis. The word corporate was found to be used much more frequently and in a wider range of contexts. According to the findings, corporate research has expanded quickly, which has further enhanced the body of current literature through a number of empirical investigations (Foroudi & Montes, 2017; Luet al., 2020; Purwanto et al., 2020). Two major themes emerged from the research topics recently: media and reputation. Social media and corporate reputation were the two key words that co-occurred the most, meaning that they were used together most of the time in most publications.

Seven clusters were identified based on the findings. E-social media, Twitter, communication, engagement, credibility, corporate social responsibility, and stakeholders were found to be the most frequently appearing keywords in the first cluster, whereas corporate reputation, online engagement, and crisis communication were found to be together in the second cluster. Facebook, social media engagement, reputation, disclosure, content analysis, and Web 2.0 were the most common terms in the third cluster. The fourth cluster had the most often occurring keywords, which included business communication, consumer involvement, and online reputation. The terms with the highest degree of co-occurrence in the fifth cluster were national culture, reputation management, and corporate image; in the sixth cluster, the keywords were business model innovation and Industry 4.0. Only two words—crisis communication and authenticity, co-occurred in the last cluster.

Publication trends about company reputation as well as the most influential articles for corporate reputation research in the era of digitalization in terms of citations are presented in Table 1.

Table 1: The most influential articles for corporate reputation research
(Source: Hamidi, S.R., Ismail, M.A., Shuhidan, S.M., Kadir, S.A (2023). Corporate Reputation in Industry 4.0: A Systematic Literature Review and Bibliometric Analysis. SAGE Open October-December 2023: 1–19.

Author(s)	Article title	Source title	Year	TC	C/Y
Dijkmans et al. (2015)	A stage to engage: Social media use and corporate reputation	<i>Tourism Management</i>	2015	245	30.63
Sivertzen et al. (2013)	Employer branding: Employer attractiveness and the use of social media	<i>Journal of Product and Brand Management</i>	2013	112	11.20
Jones et al. (2009)	Corporate reputation in the era of web 2.0: The case of Primark	<i>Journal of Marketing Management</i>	2010	101	8.42
Ott and Theunissen (2015)	Reputations at risk: Engagement during social media crises	<i>Public Relations Review</i>	2015	83	10.38
Ji et al. (2017)	Staking reputation on stakeholders: How does stakeholders' Facebook engagement help or ruin a company's reputation?	<i>Public Relations Review</i>	2017	62	10.33
Rokka et al. (2014)	Balancing acts: Managing employees and reputation in social media	<i>Journal of Marketing Management</i>	2014	61	6.78
Grover et al. (2019)	Impact of corporate social responsibility on reputation—Insights from Tweets on sustainable development goals by CEOs	<i>International Journal of Information Management</i>	2019	55	13.75
Li et al. (2013)	Corporate Twitter channels: The impact of engagement and informedness on corporate reputation	<i>International Journal of Electronic Commerce</i>	2013	49	4.90
Hamouda (2018)	Understanding social media advertising effect on consumers' responses: An empirical investigation of tourism advertising on Facebook	<i>Journal of Enterprise Information Management</i>	2018	43	8.60
Zheng et al. (2018)	Exploring the relationship between corporate reputation and the public's crisis communication on social media	<i>Public Relations Review</i>	2018	38	7.60

Main themes of corporate reputation research. The clusters in the current study were created using bibliographic coupling with previously published works as an analytical unit. Using the VOS viewer, the main themes or clusters that arose from bibliographic coupling in the network analysis of the complete data set were produced. Four main themes of corporate reputation research in 4.0 were identified by the analysis's findings: crisis communication, consumer involvement, corporate credibility, and corporate image.

Crisis communication. Some 32% of current research publications are about corporate crisis communication, and common keywords that appear in these publications are "crisis communications," "data breach," and "emotions." Managing a company's social media reputation has grown in importance for public relations in the technological age. However, "soft" factors like competence, credibility, responsibility, trustworthiness, and reliability make managing a company's reputation difficult (Ott & Theunissen, 2015). Furthermore, a corporation's attempts to influence the public are usually regarded as unclear, which may increase the danger of upholding a favorable reputation and image.

Consumer involvement. With 25% of research publications containing prominent terms like "marketing," "value co-creation," "branding," "online engagement," "online brand exposure," and "brand image," the second cluster focuses on engagement. An active

relationship between customers, employees, and companies is continuously aided by social media, which has brought about a multitude of options for an organization to communicate with its internal (employees) and external (customer) stakeholders (Becker & Lee, 2019). From the standpoint of the customer, social media gives users the opportunity to share their own opinions, which may improve interactions with other people. In this sense, a business should establish a more extensive social media community to engage with clients on a constant basis by hearing their opinions and using suitable solutions for a range of problems.

Credibility. With 25% of research publications using prominent key terms like "branding," "attractiveness," "credibility," "information," and "advertising," the third cluster pertains to credibility. Information is usually disseminated from a company to stakeholders in one direction using traditional means, including internal communications, the press, advertisements, and social media reporting, in order to build the company's credibility. Therefore, in the digital age, depending on traditional channels would be seen as foolish. Social media in particular allows for two-way contact and speedier information transmission. Additionally, contemporary channels facilitate genuine communication between businesses and their clientele, which eventually enhances a company's reputation.

Boateng and Okoe (2015) pointed out that customers viewed a company's social media advertisements as a way to determine its credibility, which in turn affected the company's favorable reputation. According to Li et al. (2013), consumers also considered a company's trustworthiness when assessing it, which would enhance future interaction and the company's reputation. Customers, however, can view social media advertising as a self-promotion tactic rather than as a genuine means of communicating the company's activities. As a result, the company may become embroiled in a self-promoter dilemma and lose its reputation. Zizka (2017) proposed three crucial approaches to deal with the situation: stakeholder information, reaction techniques, and involvement styles. In contrast, Hamouda (2018) proposed that honesty, dependability, trustworthiness, and believability.

Business Image. The fourth cluster identified is corporate image, which accounts for about 18% of research articles and contains the following noteworthy keywords: "corporate logo," "digital interaction," "image," and "loyalty." Previous research demonstrated that corporate image had an intangible value that was essential for any firm to attain long-term sustainable growth and a competitive edge (Grover et al., 2019; Lu et al., 2020). Previous research also indicated that a company's image was distinct and hard to copy, so fostering a positive image would support a company's long-term success (Lim & Young, 2021). Prior to being shaped into attitudes and sentiments, corporate image is a psychological process that has an illusive, passionate link with mental states (Purwanto et al., 2020).

Accordingly, Hafez (2018) argued that consumers' feelings, wants, and opinions about the company's goods and services were the source of the corporate image. These days, corporate logos and brands would greatly enhance the company's reputation since they might aid in communication, particularly through internet platforms, enabling viewers to completely comprehend a company's history (Foroudi & Montes, 2017). Similarly, Pham et al. (2012) contended that corporate logos were the main tool used to boost brand recognition and customer loyalty. Similar results were also found by Muller-Kahle and Lewellyn (2011),

who found that corporate logos could improve customer reactions, brand loyalty, and modernism.

CONCLUSIONS

An comprehensive and methodical evaluation of the literature is part of a bibliometric analysis, which aims to investigate the theoretical framework and important issues. Four primary clusters were identified from the published articles: engagement, credibility, crisis communications, and corporate image. According to the study's findings, using social media to enhance a company's reputation is essential. This study adds a number of noteworthy theoretical insights to the body of current literature.

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