



**Critical social research in enterprise social network studies: A systematised
overview and analysis**

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Dedication

To my faithful canine companion, Kallie, whose unwavering love and presence brought joy and comfort during the most challenging times of this journey. Your memory continues to inspire me every day.

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Abstract

This study examines peer-reviewed articles on the internal use of Enterprise Social Networks (ESNs) within organisations, focusing on their impact on employee well-being and internal communication. It differentiates between Critical Social Research (CSR) and Administrative Research (AR) on ESN use. CSR looks at power dynamics and socio-ethical impacts, while AR aims to improve organisational efficiency. The review categorises articles from major databases, identifying key methodologies and theories. Findings show that CSR is less common but growing, with trends focusing on employee well-being and knowledge management. The review offers a framework for distinguishing CSR from non-CSR to guide future studies and promote ethically informed perspectives.

Keywords:

Enterprise Social Network (ESN)

Social Media in the Workplace

Critical Social Research (CSR)

Employee Well-being

Knowledge Management

Organisational Communication

Acronym List

AR: Administrative Research
AT: Affordances Theory
BT: Boundary Theory
CMIS: Critical Media and Information Studies
CSR: Critical Social Research
ESN: Enterprise Social Network
GT: Grounded Theory
HR: Human Resources
IS: Information Systems
RTA: Reflexive Thematic Analysis
SCT: Social Capital Theory
SM: Social-Media
SN: Social Network
SR: Systematic Review
TA: Thematic Analysis
TAT: Technology Acceptance Theory
UGT: Uses and Gratifications Theory

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1. Introduction

This study systematically reviews peer-reviewed journal articles from popular academic databases which conduct social research on using social media (SM) in the workplace, also called Enterprise Social Network (ESN) research. ESN research examines the application of SMs or social networks (SNs) within organisational settings; this study distinguishes between two types of SM use by organisations: outward-facing use, which involves engaging with customers, stakeholders, or other organisations, and internal use by employees for communication with colleagues, managers, and leaders; or the organisation itself, such as in Human Resources (HR). This study focuses on inward-facing use because it directly impacts employees' well-being, interpersonal relationships, and relationships with the larger world.

The research design follows a systematic approach, adhering to protocols adapted from the Systematic Review (SR) methodology to gather a comprehensive selection of ESN research from the most relevant databases between 2009 and 2021. The collected journal articles were refined by eliminating duplicates and those not meeting the methodological criteria; the articles were then categorised into Critical Social Research (CSR) and Administrative Research (AR) to assess the state of CSR research in ESN studies during the specified timeframe to measure its quantity and discern its content.

This study adapts the SR process without claiming the exhaustive coverage of a full SR, following Grant and Booth's typology (2009). Furthermore, it addresses concerns among proponents of CSR regarding the potential decline or challenges CSR faces in the social sciences, particularly within the context of internet studies (IS) (Fuchs, 2017b). By analysing the collected research articles, this study aims to determine the proportion of CSR on ESN use relative to AR on ESN use and explore changes over time. This study examines dominant research methodologies, utilised theories, thematic areas, and the relationship between theory use and research characterised as CSR or AR. The findings of this study contribute to a better understanding of the state of CSR on ESN use, inform future investigations, and provide evidence regarding concerns over the decline of CSR in the field.

This study adopts the position argued by Fuchs (2011) in *Foundations of Critical Media and Information Studies*, where he distinguishes between AR and CSR within the larger IS research field. AR, Fuchs argues, adheres to traditional, positivist approaches focusing on organisational

efficiency and effectiveness. In contrast, Critical Media and Information Studies (CMIS) provide a framework for research that addresses broader social and political issues inherent in media and IS research. From a CSR perspective, media and SM function as power, dominance, and counter-power tools, shaping power structures and spaces of struggle (Fuchs, 2011).

CSR aims to reconfigure institutions to better serve relevant social groups, while AR seeks to enhance organisational efficiency (Fuchs, 2011). This study underscores the significance of examining the impact of SM on people's lives and the importance of CSR in understanding this phenomenon. Drawing on Davis's exploration of technology's societal influence in *Techgnosis* (2004) and Wolfe's discussion on posthumanism's ethical responsibility in *What is Posthumanism?* (2010), this study upholds the need for comprehensive and ethical research perspectives.

1.1. Background

Proponents of critical scholarship in the social sciences, particularly those involved in CSR and CMIS, express concern over the decline or suppression of this type of research by the dominance of positivistic-AR (Fuchs, 2017b). CMIS, as advocated by theorists like Fuchs, is essential to understanding the impact of digital positivism, which, he contends, currently dominates digital media studies (2017b).

The closure of critically oriented programs, such as the Critical Management Studies and Political Economy program at Leicester University (Harvey, 2022), and the marginalisation of critical activists and academics, as reported by Duckett et al. (2013), illustrates the challenges faced by CSR. These developments prompt a reassessment of the presence and impact of CSR in fields dominated by AR paradigms.

1.2. Purpose

This study assesses the quantity and focus of CSR on ESN use compared to AR on ESN use, analysing changes over time in their ratio and identifying themes and trends within the collected CSR. By doing so, the study aims to better understand the state of CSR on ESN use and address concerns about the alleged decline of CSR.

The study also contributes to developing a framework to discern CSR from non-CSR, regardless of whether the research incorporates the AR distinction.

1.3. Significance

The significance of this study is multi-faceted.

1.3.1. The Need for CSR

The study highlights the necessity for CSR on employees' use of ESNs. It recognises that AR often overlooks potential unintended consequences and focuses on productivity and efficiency, neglecting critical analysis. By emphasising the importance of CSR, this study sheds light on the implications of SM use in the workplace.

1.3.2. Themes and trends in CSR

The study identifies themes and trends within the collected CSR on ESN use by analysing dominant research methodologies, theories, and thematic areas covered. This analysis provides insight into the landscape of CSR in this field, contributing to a deeper understanding of critical theory as applied in ESN research and providing a foundation for further investigations.

1.3.3. The state of CSR in ESN research

The study assesses the quantity and focus of CSR use compared to AR on ESN use by analysing collected research articles and examining changes over time. This analysis determines whether CSR on ESN use is facing challenges or experiencing a decline.

The findings provide evidence regarding concerns about CSR and inform future research directions.

1.3.4. A framework for distinguishing CSR

The study contributes to developing a framework and typology to distinguish CSR from AR (or other non-CSR). By creating a methodology that can be applied in different research areas, the study offers a valuable tool for researchers aiming to differentiate and classify CSR and non-CSR in their respective fields.

1.4. Research Questions

The primary objective of this study is to evaluate the extent and trends of CSR compared to AR on ESN use over time and to understand the dominant themes and methodologies within this scholarly work.

To achieve this study's objectives, the research questions are framed to address the following areas:

1.4.1. Proportion of CSR

What percentage of the collected research articles can be categorised as CSR on ESN use?

1.4.2. Methodological Approaches

What are the dominant research methodologies (qualitative, quantitative, mixed-method) employed in these articles?

1.4.3. Theoretical Frameworks

How frequently do research articles explicitly mention the use of specific theories, and does the presence of theory correlate with the research classification as CSR or AR?

1.4.4. Thematic Areas

What are the main thematic areas or topics covered in the collected research articles? How do these topics intersect with CSR perspectives?

1.4.5. Emerging Trends

Are there any emerging trends or patterns regarding incorporating CSR within ESN studies?

1.5. Theoretical Background

This study employs a SR methodology to consolidate and analyse a substantial body of ESN research. SRs are valuable for summarising extensive research findings to answer specific questions, identify areas needing further study, and ensure decision-making is informed by comprehensive evidence (Higgins et al., 2019). Traditionally used in healthcare, these methodologies have expanded to the social sciences, offering robust tools for investigating complex issues (Chandler & Hopewell, 2013).

1.5.1. SR Methodology

Following the Cochrane Collaboration's process, this methodology involves defining precise research questions, extensive searches, evaluating study quality, and synthesising findings to minimise bias and generate reliable conclusions (Higgins et al., 2019).

This structured approach ensures thorough data collection and analysis, making the findings trustworthy and relevant.

1.5.2. Administrative vs. Critical Social Research

AR typically adopts a positivist approach within IS to enhance organisational efficiency and effectiveness. In contrast, CSR, rooted in Critical Media and Information Studies (CMIS), addresses broader social and political issues, focusing on power dynamics, societal impacts, and ethical considerations (Fuchs, 2011).

1.5.3. Critical Social Theory

CSR, originating from the Frankfurt School, critiques societal structures and power relations. It encompasses theories like Habermas's model of communicative action, which highlights the importance of dialogue and reflection in understanding societal impacts (Habermas, 1985; Hearn, 1990).

This theoretical perspective is important for examining how ESNs influence workplace dynamics, employee well-being, and organisational culture.

1.5.4. The Digital Sublime

Mosco (2015) discusses the concept of the digital sublime, which explores the profound cultural and transformative impacts of technologies like cloud computing and big data.

This study examines these technologies' broader implications on ESNs, considering how they reshape organisational knowledge, power structures, and social interactions.

1.5.5. Theory and Theoretical Frameworks

Theories such as Social Capital Theory (SCT), Affordances Theory (AT), and Boundary Theory (BT) are frequently used to understand the impact of ESNs.

SCT explores the value of SNs in enhancing organisational outcomes, AT examines the potential actions enabled by technology, and BT investigates the effects of ESNs on work-life boundaries (Treem et al., 2015; Yang, 2020).

This study leverages a SR methodology to bridge AR and CSR, emphasising the necessity of integrating socio-technical and ethical perspectives for a holistic understanding of ESNs in the workplace.

The study aims to provide comprehensive insights into the evolving landscape of ESN research by analysing trends, methodologies, and theoretical applications.

1.6. Conceptual Framework

This study employs a conceptual framework grounded in the typology of CSR studies.

Typologies serve as systematic and structured approaches to categorising and analysing complex concepts in social sciences research. They facilitate information organisation and enable researchers to summarise relationships between variables effectively.

1.6.1. A typology for CSR

A typology for CSR studies has been adapted from Coule et al.'s *Toward a Typology of Critical Nonprofit Studies: A Literature Review* (2022), in which they developed a typology of CSR non-profit studies. Their typology, effectively maps out CSR elements provides a general typology applicable to other sociological research areas, including ESN studies where it can be leveraged as an instrument to reliably distinguish CSR from AR focused ESN research.

The reliability and validity of the typology as a coding instrument are grounded in the extensive review conducted by Coule et al. (2022).

CSR explores the conditioning effect of social, economic, cultural, and political structures, focusing on structures of domination, questioning prevalent assumptions, and addressing power and knowledge dynamics. Based on these elements, an instrument was developed to facilitate the identification and categorisation of CSR. This instrument codes collected articles to determine their alignment with critical or administrative paradigms.

By applying this typology and instrument, researchers can discern and classify studies within the CSR framework, contributing to a deeper understanding of CSR and its implications in various fields of inquiry.

1.6.2. Instrument

The coding instrument includes a series of criteria that comprise CSR, followed by a series of CSR categories (or types) outlined in greater detail in Table 3.7. Each paper was examined for five types of CSR criteria and compared against AR research, resulting in two groups: 142 AR and 38 CSR articles; the CSR articles were further categorised to determine their focus on issues like challenging power structures, questioning societal norms, or critiquing the instrumental use of social research and technology.

This typology forms a framework for systematically analysing the collected research, providing a better understanding of CSR and its implications in various fields of inquiry.

1.7. Research Design

The research design of this study employs a 'systematised' rather than a systematic review methodology due to the limited scope and resources of this dissertation. A systematised review incorporates elements of SRs; however, it does not claim the comprehensiveness of a full SR. As a systematised review, this study closely models the SR process, demonstrating knowledge of the review methodology and the technical abilities to perform the steps involved (Grant &

Booth, 2009). The review follows protocols adapted from the Cochrane review methodology, ensuring systematic search, collection, and coding of ESN research from the most relevant databases (Higgins et al., 2019).

The databases included were SCOPUS, EBSCOhost, PROQUEST, EMERALD, and WEB OF SCIENCE, all known for their robust social science collections. The inclusion criteria for the findings focus on peer-reviewed academic studies on ESN usage, excluding trade literature, grey literature, conference proceedings, reviews, editorials, and book chapters.

To ensure proper analysis, only articles in English with full texts were included. The review's timeframe is from 2009 to 2021.

1.7.1. Review Process

The review process consists of multiple phases:

1.7.2. Search Strategy Development

Figure 3.2 describes the first phase of the review, which employs the search strategy. The search strategy involved selecting search terms and databases after consulting a university librarian. The search terms were derived from keywords, abstracts, and titles of related research, ensuring inclusivity and relevance.

1.7.3. Screening and Refinement

The second phase involved screening the collected articles by removing duplicates and articles not meeting the inclusion criteria.

1.7.4. Coding Phase

Figure 3.3 describes the coding process. During this phase, articles were categorised into CSR and AR using the categories and criteria in Table 3.7 to determine the state of CSR in ESN studies between 2009 and 2021.

1.7.1. Analysis

The CSR articles on ESN use were analysed to measure quantity and discern content. The analysis aimed to answer the study's primary research questions, identifying dominant research methodologies, commonly mentioned theories, main thematic areas, and emerging trends or patterns.

1.7.2. Findings

The final phase involved summarising and presenting the findings, discussing the implications for CSR in the field, and reflecting on the developed framework's applicability.

The study's research design aims to provide a comprehensive understanding of the state of CSR in ESN research, addressing concerns about its decline in the social sciences. The systematic and structured approach ensures the reliability and validity of the findings, contributing new insights to the academic discourse on ESNs.

1.8. Assumptions, Limitations, and Scope

1.8.1. Assumptions

This study operates on several assumptions. It presumes that AR within the IS field is predominant, suggesting that most ongoing IS research focuses primarily on administrative matters, as articulated by Fuchs (2017b) and Coule et al. (2022). Additionally, it assumes a critical stance towards technology and that its application is essential.

This assumption is supported by the belief among researchers and scholars that examining these phenomena critically and evaluating their societal implications is crucial (Fuchs, 2011, 2017a).

1.8.2. Limitations

One significant limitation is the inherent subjectivity in categorising research articles as CSR or AR. Different researchers may interpret the criteria differently, potentially leading to inconsistencies in classification.

Another limitation is the number of articles meeting the defined inclusion criteria, which may affect the comprehensiveness of the analysis.

Yet another constraint on this study is the practical limitations of being conducted by a single researcher, introducing potential biases and limitations in time and resources.

1.8.3. Scope

The research's scope is explicitly confined to ESN research, considering only articles that meet the established criteria within the selected timeframe and sources. Consequently, it may exclude other relevant studies that do not fall within these parameters.

The study's findings and conclusions are specific to this subset of research articles. They are not intended to be generalisable to other contexts or populations as the research focuses deliberately on the critical philosophical stance towards ESNs compared to AR.

2. Literature Review

2.1. Field

2.1.1. Internet Studies

Research on enterprise social networks (ESNs) falls within the broader field of Internet studies (IS) and, more specifically, social media (SM) studies. IS has grown significantly since the 1980s, driven by rapid technological advancements and diverse research topics (Gauntlett & Horsley, 2004).

Initially, the Internet's primary use was in research and defence, but over time, as it became more accessible and permeated popular culture, it attracted researchers, students, professors, and even the military. By the early 1990s, corporations began recognising the potential benefits of Internet technologies, leading to widespread adoption of tools such as USENET, email, and file-sharing (Gauntlett & Horsley, 2004). Early investigations on the Internet focused on exploring social and psychological differences between online and face-to-face interactions. Notably, Hilts and Turoff's research in 1993 examined social cues, anonymity, and their effects on workplace hierarchies (Gauntlett & Horsley, 2004).

Scholars such as Turkle (1988, 1995, 1997) directed their attention towards investigating the influences of computer-mediated communication on interpersonal relationships and self-perception. Additionally, the role of gender was considered in understanding different approaches to and uses of this technology. The development of IS encompassed exploring various dimensions of identity in the digital age, including cross-cultural differences (Gauntlett & Horsley, 2004).

Surveys conducted by organisations such as Pew Internet and American Life were crucial in capturing and illustrating the increased use of the Internet for mainstream issues such as health, education, and politics (Gauntlett & Horsley, 2004). At the turn of the 21st Century, the Internet's expansion into various domains and its role as a platform for diverse companies made treating online communication as a single subject impractical, leading to a notable shift in studying the Internet.

Consequently, the interdisciplinary field of IS emerged, bringing together different research areas (Gauntlett & Horsley, 2004). IS research employs diverse methodologies, drawing from communication studies, sociology, anthropology, visual studies, cultural geography, and literary studies (2004).

Collaboration across disciplines was often necessary to incorporate different perspectives due to the absence of a standardised approach to studying the web (Gauntlett & Horsley, 2004); consequently, traditional methodological practices in research are being re-evaluated.

Researchers must navigate the longstanding debates in methodology while adapting to new challenges that electronic-mediated research presents (Gauntlett & Horsley, 2004). While data collection and analysis methods may evolve, fundamental aspects such as research design, participant selection, choice of field site, ethical practice, and theoretical frameworks remain indispensable and should not be overlooked (2004).

2.1.2. ESN Research

Studies into ESN usage encompass various topics, but there is a prominent focus on knowledge management and technology adoption within organisations. Scholars such as Mäntymäki and Riemer (2016) discuss the value and advantages of ESN usage from a knowledge management perspective by employing qualitative content analysis to identify different types of services, while others such as Pitafi et al. investigate the relationship between workplace conflict and employee agility (2018).

Below are a few notable contributors to the field of ESN studies. They are notable in that they all specialise in communication technologies and how they relate to people in organisational settings. They have all published extensively in their field (more than 10 papers), and those papers are cited frequently in the literature.

Notable Contributors:

1. **Dr. Paul Leonardi's** research focuses on knowledge sharing, implementing new technologies, and leveraging informal social networks to enhance innovation.
2. **Dr. Jeffrey Treem** is an Associate Professor of Communication Studies, focusing on the relationship between technology use and social perceptions of expertise in organisational settings.
3. **Abdul Hameed Pitafi's** research includes tourism and society, the impact of information technology (IT) on individuals and IS and employee dynamics.

Systematic Reviews in ESN Studies:

Several notable systematic reviews (SRs) have been conducted on ESN research. This study is distinct from these other SRs on ESN use in its focus on critical social research (CSR) and interest in the paradigms applied to research, not just the research content.

1. **El Quirdi et al. (2015)** conducted a SR examining ESN research methodologies, themes, and approaches.
2. **Chu (2020)** performed a meta-analytic review exploring the relationship between employee SM use and work-related outcomes, identifying positive relationships and essential moderators.
3. **Bhimani et al. (2019)** conducted an SR exploring the role of Web 2.0 applications and social software in innovation processes across sectors.
4. **Altamimi (2014)** examined Web 2.0 tools in the innovation process and project management, highlighting usage benefits and challenges.
5. **Daemi, Chugh & Kanagarajoo (2020)** conducted a systematic narrative literature review focusing on SM usage in project management, emphasising collaboration and adoption strategies.
6. **Littlewood & Khan (2018)** conducted an SR of social enterprises and networks, publishing patterns and trends in the field.

These SRs and meta-analyses illuminate employee outcomes, innovation processes, project management, and social enterprise networks.

The findings underscore the significance of understanding the role, benefits, challenges, and strategies associated with using SM and other network technologies in organisational settings.

2.2. Theory

Theoretical frameworks provide essential insights into Enterprise Social Networks (ESNs) dynamics and their influence on workplace communication.

Positivism offers a structured approach to observing the empirical effects of ESNs, focusing on measurable outcomes and generalisable data. Interpretivism, on the other hand, delves into how individuals perceive and interpret their experiences with ESNs, offering context-specific insights into social and organisational dynamics. Critical Social Theory (CSR) is the focus of

this research, which explores power structures and social inequalities, highlights ethical considerations, and advocates for social change within ESN environments.

2.2.1. Positivism

Positivism is deeply rooted in empirical observation and the application of scientific methods and has long influenced social science research. It emphasises empirical evidence derived from observable phenomena. In the social sciences, positivism has its origins in the separation of sociology from philosophy and its alignment with the natural sciences.

The development of positivism can be traced back to early theorists like Saint-Simon and Comte, who advocated for applying precise methods to establish theoretical laws, thereby aligning social sciences with natural sciences (Noble, 2000; Brown, 2017).

Kolakowski describes four rules of knowledge – 1. rejecting inaccessible essences underlying phenomena; 2. referencing knowledge statements only for individuals; 3. recognising the non-cognitive nature of value judgments; and 4. maintaining the unity of the scientific method – highlighting the foundational principles of positivism (1972).

This approach aims to bring scientific rigour to sociology, striving for objective, generalisable findings that can withstand empirical scrutiny; however, the strict adherence to empirical methods often overlooks the subjective and interpretive dimensions of social phenomena, which are essential for a comprehensive understanding of ESNs' impact on workplace dynamics.

2.2.2. Interpretivism

Contrasted with positivism, interpretivism emphasises understanding the subjective meanings and social constructions that individuals attach to their experiences and interactions. This paradigm seeks to uncover how social actors create and sustain systems of meaning through their interactions. Sociologists like Cicourel (1977) underscore the importance of interpretive methods in exploring the diverse ways people live and make sense of the world.

In the context of ESNs, interpretivism allows researchers to delve into how employees perceive and engage with these networks, providing context-specific insights into their social and organisational implications.

2.2.3. Critical Social Theory (CSR)

Critical social theory (CSR) is rooted in the Frankfurt School's intellectual tradition and aims to analyse and critique power structures, inequality, and social injustices. CSR challenges the

status quo by questioning dominant ideologies and advocating for transformative social change. The Frankfurt School, led by thinkers like Max Horkheimer and Jürgen Habermas, emphasised the importance of understanding media and IS's socio-economic and cultural dimensions (Habermas, 1985; Hearn, 1990).

Habermas's theory of communicative action and his concept of cognitive interests – technical control, understanding through interpretation, and emancipation from external powers – provide a solid framework for examining the socio-technical dynamics of ESNs (Habermas, 1985).

CSR's focus on power relations and its commitment to social justice make it an important lens for exploring the ethical and humanistic implications of ESNs in the workplace.

2.2.4. The Digital Sublime

The concept of the Digital Sublime encompasses cloud computing, big data analysis, and digital humanities, underlining the importance of CSR in digital quantitative research. It highlights these technologies' cultural shifts, constraints, and ethical aspects, urging researchers to look beyond immediate benefits and adopt diverse research approaches (Mosco, 2015).

The term "sublime" in technology evokes wonder and astonishment from advancements that push past previous boundaries (Van Wyk, 2018). This blend of science, engineering, and creativity reshapes our worldview, inspiring new possibilities and transforming life aspects (2018).

Mosco's (2015) *Digital Sublime* explores the cultural and transformative impacts of cloud computing and big data analysis. He emphasises the need for CSR beyond the highlighted benefits, focusing on the decision-making process of entrusting data to cloud services. Mosco notes that these technologies reshape our understanding of human behaviour and transcend traditional disciplines, warning that the global expansion of cloud computing could marginalise other scientific inquiries, thus limiting diverse perspectives (2015).

Despite their power, these technologies are limited as universal knowledge sources due to life's complexity (Mosco, 2015). Big Data Analysis focuses on consumer data, shaping world understanding and extends to fields like social sciences to predict human behaviour, sparking debates about research methods and protocols. Mosco stresses the importance of examining these technologies beyond their immediate benefits, considering their complexities and limitations for knowledge and understanding (2015).

2.2.5. Digital Humanities

Digital Humanities (DH) is an interdisciplinary field that combines computer science with traditional humanities research. It leverages advanced computational tools to analyse large datasets. DH challenges linear thinking and promotes dynamic, interconnected knowledge production. The involvement of corporations and government funding in DH initiatives reflects the transformative potential of these technologies (Mosco, 20150); however, it also raises concerns about the influence of corporate control and the need for ethical guidelines to ensure equitable access to knowledge (2015).

By integrating CSR perspectives, DH can address the broader implications of digital technologies on education, research, and society.

2.2.6. CSR Approaches to ESN Studies

Applying CSR approaches to ESN studies involves examining how these networks shape social relations, power dynamics, and organisational culture.

The emphasis on socio-technical affordances, as explored through Affordances Theory (AT), highlights how ESNs enable or constrain specific actions and interactions within the workplace. At the same time, Boundary Theory (BT), examines the delineation between work and personal life, underscoring the importance of maintaining work-life balance in the digital age. Social Capital theory (SCT) focuses on the value of social networks (SNs). It provides insights into how ESNs facilitate communication, collaboration, and knowledge sharing (for a more detailed explanation of the theories and theoretical frameworks, see Appendix A).

2.2.7. Summary

Integrating diverse theoretical frameworks enriches the understanding of ESNs and their impact on workplace communication. By combining positivist rigour with interpretivist insights and CSR perspectives, researchers can develop a comprehensive view of the socio-technical dynamics of ESNs.

This multidimensional approach ensures that ESN research addresses practical and ethical considerations, fostering a more inclusive and humane digital work environment. Future research should continue to explore these theoretical avenues, incorporating innovative methodologies and interdisciplinary collaborations to capture the complexity of ESNs in contemporary organisations.

2.3. Methodology

2.3.1. Systematic Reviews

Systematic Reviews (SRs) have been a recognised methodology since the 18th Century, gaining popularity and refinement in the 20th Century (Grant & Booth, 2009). Grant & Booth define reviewing as the process of viewing, inspecting, or examining something multiple times, and this methodology is well-suited for identifying areas of agreement or divergence in a body of literature (2009).

The SR methodology is increasingly used in the social sciences beyond medical contexts (Petticrew & Roberts, 2008). For instance, SRs have been applied to analyse political interventions and social engineering, providing a more accurate and comprehensive understanding of a research topic by aggregating data from multiple studies (2008).

However, this definition does not account for the variations in review processes and levels of rigour (Grant & Booth, 2009). As SRs gained wider adoption, a broader range of review types, structures, and methodologies emerged.

Grant & Booth (2009) identify 14 different kinds of reviews; however, the ones relevant to this study are the following:

- **Overview:** A summary of the literature on a particular topic, describing its characteristics.
- **Systematic review:** Systematically searches, appraises, and synthesises research evidence on a specific topic.
- **Systematised review:** Attempts to include elements of a SR but falls short in some respects, often conducted as a student assignment (Grant & Booth, 2009).

This study falls between Grant and Booth's categories of the SR, the systematised review, and an overview; this combination is labelled and described as a systematised overview (2009).

2.3.2. Systematised Overview

This study describes itself as a systematised overview, incorporating elements of both the SR methodology and the overview approach.

According to Grant & Booth (2009), a systematised review falls short of being a full SR; however, it incorporates elements of the SR process and is conceptually aligned with it. The output of this type of review demonstrates an understanding of the SR process and technical

proficiency in the steps involved (2009). While not as comprehensive as a full SR, a systematised review can serve as a basis for further, more extensive investigation; however, it is more likely to possess bias than reviews that strictly adhere to systematic guidelines (Grant & Booth, 2009).

Overview

The term "overview" is generic and can describe different reviews with varying degrees of systematicity; however, the term conveys the intent to comprehensively summarise a topic, considering the characteristics of the research (Grant & Booth, 2009).

2.3.3. Adaption of SR methodology

This study's search methodology is modelled after a Cochrane Review, with databases considered essential in the social sciences (Higgins et al., 2019); it adheres to rigorous guidelines and protocols, such as those outlined in the Cochrane Review methodology, to ensure the quality and reliability of results (2019). The reason that databases focusing on social research are searched over more business and technology-based databases is that the study is specifically searching for Critical Social Research (CSR).

Following protocols adapted from the SR methodology, this study aims to systematically search, collect, and code data while also functioning as an overview by surveying and describing the research characteristics under examination.

2.3.4. Thematic Analysis

Part of the research data analysis is guided by the 'Reflexive Thematic Analysis' (RTA) approach, which follows the six-step protocol outlined by Elo & Kyngäs (2008) and Kiger & Varpio (2020).

Braun & Clarke (2006; 2012; 2014) have contributed significantly to this approach, particularly in healthcare and psychology; they describe thematic analysis (TA) as an umbrella term for various methods to qualitatively analyse data, focusing on identifying themes or patterns of meaning and emphasising the researcher's subjectivity (Braun & Clarke, 2006). While TA allows for theoretical flexibility, the specific philosophy and procedures for theme development can vary considerably (2006).

RTA allows for a range of methods, categorised as deductive or inductive approaches (Kiger & Varpio, 2020). While the separation between these approaches may not always be rigid, it is crucial to maintain theoretical coherence and consistency throughout the analysis (2020).

Inductive Approaches:

- In inductive analysis, coding and theme development are guided by the content of the data.
- Semantic analysis focuses on coding and theme development that reflect the explicit content of the data.
- (Critical) realist or essentialist analysis reports an assumed reality evident in the data (Kiger & Varpio, 2020).

Deductive Approaches:

- Deductive analysis entails coding and theme development guided by existing concepts or ideas.
- The latent analysis involves coding and theme development that report underlying concepts and assumptions within the data.
- The constructionist analysis focuses on how the data construct a specific reality (Kiger & Varpio, 2020).

RTA comprises six sequential phases that build upon each other. These phases serve as analytical tools facilitating thorough data interrogation and engagement, and the process is recursive, allowing movement back and forth between the stages (Kiger & Varpio, 2020).

Unlike other approaches, RTA distinguishes itself through its underlying philosophy and theme development procedures. By engaging in rigorous data familiarisation, coding, theme development, and revision, RTA aims to identify patterns of meaning across a dataset, providing insights into the research questions (Kiger & Varpio 2020).

RTA demonstrates flexibility and can be adapted within different frameworks, effectively addressing questions about people's views, experiences, perceptions, understanding, representation, and meaning construction (Kiger & Varpio, 2020).

3. Methodology

3.1. Standards and Guidelines

As a systematised overview, this study adapts the basic methodology laid out in the guidelines from The Cochrane Handbook for systematic reviews (Higgins et al., 2019) regarding the requirements for databases and searches. This research also uses the Population Intervention and Context (PICO) framework to guide the review, rather than the Population Intervention Comparison/Control and Outcome (PICO) framework typically used for quantitative research within health professions to compare interventions, outcomes, and populations.

3.1.1. Cochrane Review Guidelines

The Cochrane guidelines endorse a multi-database search strategy to ensure comprehensive coverage (Higgins et al., 2019; Bramer et al., 2018). The guidelines from the Cochrane Handbook (Higgins et al., 2019) suggest that for a SR in the health sciences to be considered comprehensive in its scope and its sample to be significant, the study should, at a minimum, include the databases PubMed, Embase, and the Cochrane Central Register of Controlled Trials (CENTRAL) in the search strategy. In addition to these databases, Cochrane recommends supplementing the search with at least two databases specific to the research topic or field (2019).

3.1.2. The PICO Framework

This study benefits from the PICO framework as it examines the context and content of the research of a specific phenomenon rather than comparing interventions or outcomes. This research compares approaches to ESN use within the workplace, differing from the typical application of 'comparison/control' in the PICO framework regarding qualitative data. The decision to use PICO is driven by the study's aim to understand academic approaches when investigating ESN use in workplaces rather than comparing the outcomes of various interventions. This approach allows for an analysis sensitive to the nuances of internal employee communication via ESNs, distinguishing it from other ESN uses such as customer and client communication (Mohlamonyane, 2023).

Contrary to Petticrew and Roberts' emphasis on SRs for cause-and-effect relationships, this study leverages the flexibility of PICO to address questions beyond causality, such as prevalence, implementation, and contextual factors surrounding the use of ESNs (Petticrew & Roberts, 2008).

Characteristics of the review process:

1. Does not reinterpret the findings of included studies.
2. Adheres to SR standards: objective definition, criteria for inclusion/exclusion, search strategy, and data extraction.
3. Requires protocol peer-review and multiple reviewers for enhanced reliability (Lockwood et al., 2015).

The acronym PICo delineates the following components:

1. P = Population/Problem: Identifies the subject of research or the problem being addressed.
2. I = Phenomenon of Interest: Refers to the event or subject matter under investigation.
3. Co = Context: Focuses on the setting or circumstances relevant to the phenomenon of interest.

In the context of this research – a systematised review of CSR on ESN use – the PICo framework is utilised as follows:

- **Population/Problem:** Research articles examining ESN.
- **Phenomenon of Interest:** CSR analysis or perspectives within these articles.
- **Context:** The spectrum of theoretical foundations of academic studies on ESN use.

The PICo framework emphasises the significance of context and serves as a guiding tool for the review. By centring on context, the PICo framework provides qualitative research with a structure for SRs, ensuring studies are examined within their real-world setting.

3.2. Developing Search Strategy

The initial phase involved utilising the university's PRIMO search engine and catalogue for a scoping search. The scoping search helped establish search terms and the selection of databases for the subsequent primary search, laying the groundwork for a more efficient search strategy.

The results from this phase are used to pinpoint relevant databases, refine the choice of search terms, and outline the scope of the literature under review.

3.2.1. Scoping Search

The scoping search was conducted on July 18, 2020, and followed by a subsequent search on July 29, 2020.

Initial testing involved the phrase "Enterprise Social Network*," with the inverted commas ensuring the phrase was treated as a single entity, not as individual words.

The asterisk (*) signifies the inclusion of all variations of "network," such as "networks" or "networking."

This initial search generated 3,507 results, which narrowed to 391 after applying the filter for peer-reviewed articles.

A search without the asterisk and in plural form – “Enterprise Social Networks” – yielded 1,024 results, reduced to 154 peer-reviewed articles, offering a more focused dataset but with further room for refinement.

Refinement of Search

To focus on studies related to the utilisation of “ESNs” – AND “Use,” – was appended to the initial search term, ensuring that only articles containing both “Enterprise Social Networks” AND “Use” would be included in the results. This led to a list of 657 articles, which further contracted to 138 peer-reviewed articles after applying the relevant filters.

Exclusion of Literature Reviews

The scoping search strategy focused on primary research studies by employing brackets around the initial search terms, combined with the – NOT – operator to exclude “literature review” from the query results. This approach effectively narrowed the scope to emphasise original research findings.

However, it is important to note that excluding literature reviews was not implemented during the primary search phase. This decision was informed by the understanding that literature reviews can be included within primary research reports, often as a critical sub-section summarising and evaluating existing scholarly work. By including such reviews, the search encompasses a more comprehensive array of scientific discourse, offering valuable insights through critical appraisals and syntheses of research, which in turn can illuminate diverse perspectives and contribute to a more robust scholarly critique.

Scoping Search Query

The refined search query (“Enterprise Social Networks” AND Use) NOT "literature review" resulted in 549 results, which, when limited to peer-reviewed journals, presented 87 relevant articles.

Additional constraints, such as language limitation to English, marginally affected the results, yielding 86 articles.

Coverage

The collected data spanned from 1994 to 2020, and 80 of the 86 final results have full text available for review.

The retrieved search results were transferred into an Excel spreadsheet to facilitate a thorough review. This process involved eliminating studies not aligned with the research focus, specifically those addressing the application of ESN in non-commercial sectors such as healthcare and education.

Through this examination, 30 articles were identified as irrelevant or redundant and removed. This effort resulted in a curated collection of 50 articles relevant to the research objectives.

Exclusions

- Four articles were removed due to duplication.
- Nine articles were excluded because they focused on SM use in education, with an additional paper intersecting education and healthcare topics.
- Two articles were explicitly related to health care and, therefore, were irrelevant.
- 15 articles were excluded because they were deemed off-topic for reasons such as:
 - Discussing non-ESN (Enterprise Social Networks) related social networks,
 - Covering topics like knowledge management in libraries,
 - The need for cross-platform analysis,
 - SM law and copyright,
 - Customer service through email,
 - Network privacy,
 - Data-mining and other forms of network analysis, including link analysis and link prediction.

Lastly, articles on:

- Gender migration,
- Disaster management and relief,
- Reputation management, and
- Housing prices

These were removed as they did not meet the search criteria.

These exclusionary criteria were instrumental in the later screening process in distinguishing criteria for exclusion.

Databases

PRIMO showed that the retrieved articles were spread across 20 databases, with six separate databases associated with ProQuest, indicating a broad but overlapping coverage.

Figure 3.1 - Number of articles found in each database during preliminary search.

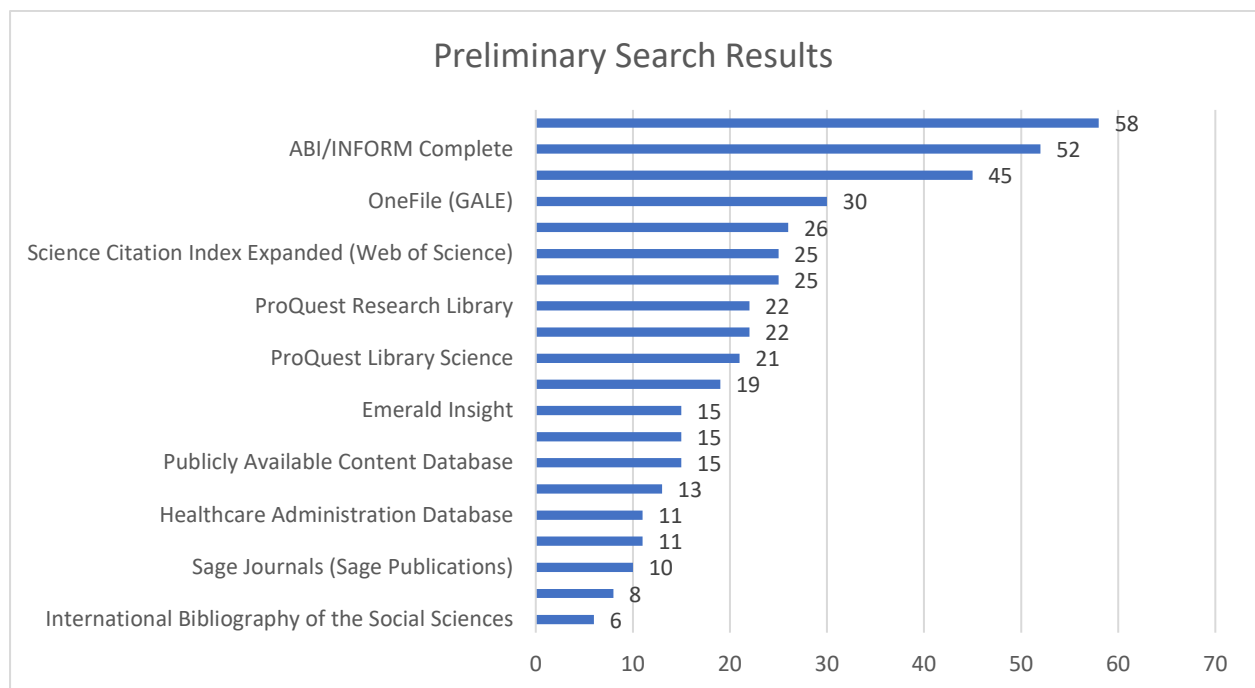


Figure 3.1 shows the databases and the number of articles found in each. This list helped inform the primary search strategy with the assistance of a university librarian.

3.2.2. Inclusion and Exclusion Criteria

The criteria included peer-reviewed articles from 2009 to 2021, focusing on employees' internal use of social media technologies and comparative studies of different ESN platforms. This study focusses on academic articles instead of grey literature and conference proceedings because they often use theoretical perspectives and empirical evidence, thus having more chance of being included in my search and responding to my research objectives.

The years 2009 to 2021 were selected because the social media phenomena emerged in the late 2000s. This study wanted to ensure it only returned research results conducted after the social media event as we know it now.

Specific Inclusions:

- Academic studies within the specified date range
- Peer-reviewed articles focusing on work-related or work-life management activities.
- Comparative analyses of public versus private organisational ESN platforms.
- Research examining the impact of social technologies on work-life balance.

Exclusion Criteria:

- Grey literature and
- Non-peer-reviewed articles, as well as
- Studies not explicitly exploring the use of social networks (SNs) within the enterprise context.

Specific Exclusions:

- Literature not aligned with the research aim, including grey literature, editorials, and conference articles.
- Research deviating from the core topic of ESNs.
- Articles not examining the use of ESNs specifically.
- Studies concerning enterprise resource planning systems unrelated to ESNs.
- Use of ESNs to communicate outwardly, not internally.

3.2.3. Testing Search Strategy

Aided by the results of the scoping search, the specialised knowledge in information science of a librarian from the University of Cape Town, Ingrid Thomson, insights from already published reviews on ESN literature, a search strategy, and databases to search was decided on.

The scoping search revealed SCOPUS, Web of Science, and ProQuest as primary databases; other researchers and the university librarian also recommended these databases. Further recommendations from the librarian included EBSCOhost and Emerald, which are notable for their substantial humanities research collections.

Together, these databases fulfilled the requirement of utilising three mainstream academic databases, Web of Science, SCOPUS, and ProQuest, along with two specialised databases, EBSCOhost and Emerald, for their comprehensive academic publication coverage (Higgins et al., 2019).

The search strategy was built to be dynamic and adaptable, meaning that as the research unfolded, the strategy could be subject to continuous evaluation and refinement.

Databases

- Emerald
- EBSCOhost
- ProQuest
- Scopus
- Web of Science

Platforms such as EBSCOhost and ProQuest search a number of journals and databases simultaneously; in both these cases, a choice was made to search all available databases.

The search terms were derived from keywords, abstracts, and titles of other research on the same topic and also variations that were considered likely, such as using corporate as a synonym for enterprise. This is why some of the phrases are very similar with only one word interchanged; this is to be as inclusive as possible.

Search terms

- “Enterprise social networks”
- “Social media in the workplace”
- “Enterprise 2.0”
- “Enterprise social software”
- “Corporate social software”
- “Corporate social network”
- "Corporate social intranet"
- ESNs

Before defining a comprehensive search strategy, testing was conducted to become familiar with the advanced search features of the selected databases. Various search affordances were explored to refine the results, considering each database's differing capabilities. Additionally, the efficacy of Boolean search phrases was tested, yielding inconsistent results.

The testing phase revealed that adding all the search terms in one long term and using the same exclusionary protocols was not possible in the same way across databases, and the results were, therefore, inconsistent, and non-replicable, a critical concern for SRs.

3.3. Searches

3.3.1. The Searches

The searches were conducted on the 4th of May 2022 (04/05/2022). The strategy that was determined to be the most effective involved conducting individual searches for each term, coupled with basic restrictions.

Restrictions

- Years – 2009-2021
- Language – English
- Format – peer-reviewed journal articles
- Full-text available

Subsequently, the results were exported in the RIS format to align with the requirements of the Rayyan review software (Figure 3.2).

Each term is searched individually, results are collated, and duplicates are removed. This more straightforward, more replicable process is preferable to using a complex search string across databases. It ensures consistent results across various databases with different search features, making the strategy easier to replicate (Figure 3.2).

The search was conducted separately for each term to ensure a straightforward and repeatable method, which is particularly beneficial due to each database's unique searching algorithms and functionalities.

Through this method of individual term searches, researchers can compile a comprehensive set of relevant literature while maintaining consistency in the search process across different platforms.

All results were collated after the search, and duplicates were removed to finalise the data set for review and analysis.

3.3.1. Search results:

Table 3.1 presents the number of search hits across the five different academic databases for each of the selected search terms: "enterprise social networks," "social media in the workplace," and several variations incorporating "enterprise," "corporate," and "social software" or "social network."

Notably, "Enterprise social networks" yielded a high number of results in Scopus, whereas "ESNs" had the most significant number of hits in the Web of Science database.

The search for terms like "enterprise social software" and "corporate social software" yielded fewer results across all databases, indicating that these might be less common or more specific terms in literature.

3.1. Screening process

Table 3.1 - Number of results retrieved for each search term in each database.

Table 3.1: Search Results					
Search terms	Emerald	EBSCOhost	ProQuest	Scopus	Web of Science
"Enterprise social networks"	383	137	82	632	89
"Social media in the workplace"	76	27	34	223	17
"Enterprise 2.0"	230	35	89	689	56
"Enterprise social software"	34	4	15	158	16
"Corporate social software"	3	1	11	22	1
"Corporate social network"	63	6	16	50	11
"Corporate social intranet"	13	5	13	38	4
ESNs	68	22	29	16	227
<u>Total:</u>	<u>870</u>	<u>237</u>	<u>289</u>	<u>1828</u>	<u>421</u>

Overall, the combined hits for all terms amount to 870 for Emerald, 237 for EBSCOhost, 289 for ProQuest, 1828 for Scopus, and 421 for Web of Science.

3.1.1. Preliminary screening

Before screening the entire collection of articles, a preliminary screening was conducted in accordance with Chandler & Hopewell's (2013) recommendation to facilitate familiarity with the dataset and the Rayyan software used to conduct this review.

Initially, all search term results from each database were collated and reviewed separately; subsequently, the exported files from each database were consolidated into a single review for each database. During this phase, the results of each database were scanned for duplicates using Rayyan's duplicate detector.

Figure 3.2 - Search Process

Search Process



Following this, each article's title and abstract were assessed to evaluate its adherence to inclusion and exclusion criteria. Notably, the initial screening excluded Scopus due to the larger volume of results, which raised concerns about manageability.

Consequently, the combined results from the other databases yielded a preliminary list comprising 441 articles. After an initial screening process, this list was refined to 323 articles. This preliminary review highlighted recurring inclusion and exclusion criteria concerning knowledge management and echo-state networks.

Upon reflection on this preliminary screening, it was decided that to ensure a comprehensive and rigorous approach, the Scopus results should be included, and a thorough screening of the complete collection of search results from all the databases searched (including Scopus) should be conducted.

Table 3.2 presents the preliminary screening results, encompassing the articles obtained from each database following the initial screening phase. This preliminary screening phase aimed to familiarise the researcher with the dataset.

Table 3.3 summarises the inclusion and exclusion criteria applied during the preliminary screening phase of the review; criteria reflect the scope of the review, including common reasons for exclusion. Knowledge management appears on both lists as research on knowledge management which does not focus on ESN use or impact specifically is excluded, however research which focuses on the impact or use of ESNs as it concerns knowledge management was included.

The preliminary screening served a dual purpose: introducing the content and highlighting frequent descriptive terms. Additionally, this initial review clarified the exclusion criteria to apply when thoroughly screening the collection, such as numerous articles on Echo State Networks (also labelled ESNs in the literature), which need to be more relevant to the current study.

3.1.1.1. Screening

First screening

The reviews were broken down into each search term (the first screening group was from the Emerald database and was the search term “enterprise social networks”; the following review is “social media in the workplace,” and so on, till all the search terms were screened, the results were then migrated into Rayyan to create a first screening list for each database.

Each search term's search results were screened once the different reviews were created. In every review, the first step is selecting all the articles and checking for duplicates. Rayyan usefully offers the ability to screen out duplicates by scanning the uploaded articles for criteria suggesting duplication; Rayyan then places suspected duplicates in a subcategory for possible duplicates, which can be evaluated, resolved, excluded, or included. If duplicates are found, they are assessed for relevance to the study before deciding whether the purported duplicate is a) a duplicate or b) relevant.

Table 3.2 - Preliminary screening result totals.

Table 3.2: Preliminary screening results totals	
Database	Number of Articles
Emerald	870
EBSCOhost	237
ProQuest	289
Web of Science	421
<u>Total:</u>	<u>1817</u>
<u>Total after screening:</u>	<u>441</u>
<u>Total After refining a final list:</u>	<u>323</u>

Table 3.3 - Common Inclusion and Exclusion Criteria

Table 3.3: Common Inclusion and Exclusion Criteria	
Inclusion	Exclusion
• Innovation • Adoption • Performance • Productivity • Integration • Knowledge Management	• echo state networks • e-marketing • machine learning • knowledge management • Neurology • genetics research

The duplicate will be resolved if relevant, and only one unique entry will be included in the final list. If the topic is irrelevant to the study, both duplicates will be excluded.

After resolving duplicate entries, the next phase involved individually screening each entry to evaluate its relevance for inclusion in the study. Rayyan software offers a user-friendly

interface that facilitates this process by presenting each article's abstracts and keyword details. Utilising the abstracts, articles can be screened to determine whether they should be included or excluded.

All this data is securely stored within Rayyan and is accessible upon request. Each review process step is saved and documented in an Excel workbook, ensuring that the findings are systematically recorded, and the final results are exported for archival purposes. This process was repeated for each search term of each database.

Table 3.4 displays the number of articles found for each search term in each database. The Table also shows the total number of articles identified in the first screening before and after removing duplicates.

This illustrates the initial volume of research material collected and the effectiveness of the screening process in narrowing down the relevant articles for the study.

Second screening

The initial list of articles from the first screening was organised into annual groups starting in 2009, creating distinct batches each year to streamline the review process.

Articles from the selected databases that passed the first screening were categorised by publication year, forming separate lists for 2009, 2010, 2011, and so on. This second screening aimed to catch articles that may have slipped by initially by investigating the full text if necessary. Additionally, the results from each year were exported and then reimported into a new review to consolidate all the results from each year. The total number of articles after the second screening equalled 850 articles.

Table 3.5 displays the number of articles from all databases identified for each year and the total number of articles after the second screening and duplicate removal. The year-by-year separation simplified the review process for 1,025 articles, reducing descriptive terms in Rayyan for thematic analysis (TA) (Braun & Clarke, 2006).

Additionally, the results from each year were exported and then reimported into a new review to consolidate all the results from each year. The total number of articles after the second screening equalled 850 articles.

Third Screening

By this stage, the most apparent exclusions had been made; further screening required looking deeper into each article to see if each met the study criteria of focusing on employee use of ESNs for internal communication.

The full text for each article was uploaded to Rayyan to look deeper into each article and weed out publications outside the study parameters, such as editorials or op-ed pieces.

This third round of screening revealed numerous articles that appeared at first to fit the study's inclusion criteria but, on closer inspection, did not mention ESNs or internal use in any way.

Table 3.4 - The number of articles found for each search term in each of the databases.

Table 3.4: First round of screening					
Search terms	Emerald	EBSCOhost	ProQuest	Scopus	Web of Science
“Enterprise social networks”	383	137	82	632	89
“Social media in the workplace”	76	27	34	223	17
“Enterprise 2.0”	230	35	89	689	56
“Enterprise social software”	34	4	15	158	16
“Corporate social software”	3	1	11	22	1
“Corporate social network”	63	6	16	50	11
"Corporate social intranet"	13	5	13	38	4
ESNs	68	22	29	16	227
<u>Total (search terms):</u>	<u>870</u>	<u>237</u>	<u>289</u>	<u>1828</u>	<u>421</u>
<u>Total (database totals):</u>	<u>3645</u>				
<u>Total after 1st screening (search terms):</u>	<u>199</u>	<u>84</u>	<u>121</u>	<u>773</u>	<u>183</u>
<u>Total (database totals):</u>	<u>1360</u>				
<u>Total (after duplicates are removed):</u>	<u>1024</u>				

Table 3.6 shows the types of studies that were excluded, such as those focusing on customer communication or outward communication, and the studies that were included, such as those examining the impact of ESNs on performance and work-life balance.

Table 3.5 - Results from the Second Screening

Table 3.5: Results from the Second Screening	
Year	Articles from all databases
2009	28
2010	31
2011	30
2012	48
2013	69
2014	62
2015	65
2016	106
2017	79
2018	102
2019	117
2020	154
2021	121
Total (after screening and duplicate removal):	<u>850</u>

Table 3.6 - Inclusion and Exclusion Criteria from Third-Stage Screening

Table 3.6: Inclusion and Exclusion Criteria from Third-Stage Screening	
Exclusion	Inclusion
customer communication	impact of ESNs on performance
performance research	work-life balance
knowledge management	comparisons of Public and Internal social media
outward communication	collaboration software
online communities in general	organisational wiki
Entrepreneurs	corporate blogging
	employee wellbeing

Following the third round of screening, 50 articles were excluded from the selection process. These articles comprised editorials, non-English-language publications, and those that did not meet the specific criteria for this study's focus or target population.

Specifically, studies that, while mentioning the use of ESNs, did not primarily investigate ESNs or examine ESNs' usage for external communication with customers and stakeholders. Additionally, some articles addressed knowledge management and only incidentally referred to the impact of ESNs without concentrating on them were removed. This culling reduced our

corpus to 800 articles. Subsequently, another three articles were removed due to the unavailability of their PDFs, which brought the total down to 797.

Considering that this research forms part of a minor dissertation for a master's degree and is being undertaken by a single researcher, it became necessary further to refine the pool of articles to a manageable number. To accomplish this, articles from three equidistant years within the covered timeframe were selected for inclusion.

This strategy effectively reduced the number of articles for analysis while offering a representative glimpse into the volume and trajectory of CSR on ESN use over the years.

3.2. Coding

With the results of the third screening phase, a sample of 192 articles from 2010 (20), 2015 (55), and 2020 (117) were selected to be coded for analysis; this sample was reduced to 180 after further inspection, and another five were removed during the coding process leading to a total of 175 articles in the final analysis; these articles were coded against the CSR criteria and categories templates (Table 3.7).

3.2.1. Criteria and Categories

To distinguish between CSR and AR, this study draws upon Coule et al. (2022), Fuchs (2011), and Winberry (2021) to outline a typology to discern CSR on ESN use.

This study uses a typology which serves as a classification system, grouping research based on defining characteristics. Babbie et al. (2015) note the intricacies of employing typologies, particularly as dependent variables.

Nevertheless, typologies remain invaluable for summarising complex data. The typology consists of a series of criteria and categories listed in Table 3.7.

Criteria

Each paper was examined to see if it fit one of the five types of CSR criteria (Table 3.7). A paper may be an example of one or more of the five criteria; articles fitting these criteria will be compared against documents under number 6 - AR. Coding the articles using the above criteria allowed the creation of two groups of articles, one for AR and one for CSR.

Categories

The group of CSR articles was further coded for the categories in Table 3.7. The categories are used to determine further the type or focus of research within the identified CSR. The categories

indicate whether the research addresses CSR issues such as challenging structures of power, questioning societal norms, or critiquing the instrumental use of social research and technology.

Further Coding

Both the AR and CSR groups were then coded for further information (as outlined in Table 3.8).

Table 3.8. describes the additional coding parameters applied to AR and CSR articles; this includes the bibliographic details such as title, year, and author and methodological approaches like case studies, literature reviews, and data analysis methods (qualitative, quantitative, or mixed methods).

Articles were also coded for the specific theories referenced and the main topics addressed, providing a comprehensive framework for understanding the depth and breadth of the research under scrutiny.

3.2.1. Data Preparation

The final stage before data analysis was to export the coded reviews as CSVs and then import the CSV to Excel to clean the data.

Table 3.7 - Typology of CSR Criteria and Categories

Table 3.7: Typology Criteria and Categories	
Criteria	Category
1. Challenge structures of domination or	A. Embodies multiple tenets of critical scholarship
2. Question taken-for-granted assumptions within society or	B. Questions taken-for-granted assumptions within societies, organisations, and management practices
3. Challenges the view that social research is essentially instrumental and should be geared toward profitability or	C. Pays explicit attention to power and knowledge.
4. Challenges the view that technology is essentially instrumental and should be geared toward profitability or	D. Exposes (but does not challenge) issues of interest to critical scholarships: social stratification, power, privilege, race, and gender inequalities
5. It concerns forms of knowledge that reinforce asymmetric power relations.	
6. Administrative research	

Once the data was imported into Excel, it was necessary to sort and organise it into the correct columns, create a key, and quantify the data by turning no and yes into 0 and 1 for quantitative analysis.

3.3. Analysis

3.3.1. Data Analysis

The analysis of the selected articles was organised to ensure a thorough and systematic examination of ESN research.

The process was segmented by publication years – 2010, 2015, and 2020 – to observe the shifts and trends over a decade. The articles were analysed in each year individually by categorising them into two distinct types of research: CSR and AR. This categorisation was based on the primary focus and nature of the studies, providing a deeper understanding of different perspectives within ESN research.

Table 3.8 - Further Coding

Table 3.8: Further Coding
Title
Year
Author
Theory
Case Study
Review of literature
Qualitative
Quantitative
Mixed Methods
Topic
Theory Name

The analysis involved several steps for each year. Initially, all articles were reviewed and coded for fundamental attributes such as research type, methodologies used, theoretical frameworks applied, and thematic areas explored.

This coding process facilitated the identification of patterns and trends within each year. For instance, this study looked at the distribution of research methods (qualitative vs. quantitative), the prevalence of particular theories, and the primary themes addressed in the studies.

In addition to the year-based categorisation, separate analyses were conducted for CSR and AR. This segmentation enabled a focused exploration of each research type's unique

characteristics, theoretical foundations, and themes. CSR articles were analysed explicitly for their socio-technical impacts and theoretical depth, while AR articles were examined for their empirical and practical contributions to ESN efficiency and usage.

3.3.2. Diversity Indices

To further understand the diversity and distribution of theoretical frameworks and themes, this study employs two diversity indices:

- The Shannon Index
- The Simpson Index.
-
- These indices provide a quantitative measure of diversity, allowing us to understand the number of theories and themes and their relative abundances across the selected years (2010, 2015, and 2020) and research types (CSR and AR).
- According to Morris et al. (2014), the Shannon Index, also known as Shannon's entropy, calculates the uncertainty or entropy in the distribution of categories.

- Shannon Index formula:

$$H' = \log n - \frac{1}{n} \sum_{i=1}^k n_i \log n_i$$

-
- The Shannon index is an information statistic index that assumes all species are represented in a sample and randomly sampled.
- A higher Shannon Index value indicates greater diversity, meaning the categories are more evenly distributed (Morris et al., 2014).
- The Simpson Index measures the probability that two randomly selected articles will mention different categories (Morris et al., 2014).

Simpson Index formula:

$$D = \sum_{i=1}^k p_i^2$$

A higher Simpson Index value indicates greater diversity, meaning no single category is overly dominant (Morris et al., 2014).

Figure 3.3 - Coding Process



Application

Calculating the diversity indices for the theories and themes mentioned in ESN research articles from 2010, 2015, and 2020 helped identify trends and shifts in the research focus over time and between CSR and AR studies.

The diversity indices provide a comprehensive view of ESN research's evolution, highlighting the field's dynamic nature and theoretical underpinnings.

Future research can build on these findings, using diversity indices to track theoretical and thematic trends and guide investigations into trends in ESN research.

4. Findings

This chapter presents the research findings in response to the research questions, categorising enterprise social network (ESN) research into critical social research (CSR) and administrative research (AR) approaches and quantifying their distribution and trends over time to understand the evolution of ESN research. The analysis examines shifts in research methodologies, theoretical frameworks, and main thematic areas, highlighting the growing importance of CSR perspectives that reflect socio-technical and ethical considerations.

The research covers data from three distinct years: 2010, 2015, and 2020. This approach allows each section to stand alone, providing insights within the specified timeframes. This approach also enhances repeatability by avoiding temporal bias and basing results on clearly defined populations for each year. Additionally, the analysis compares data from each year to establish trends over time, noting the overall growth in ESN research.

The analysis examines each year separately and in combination, considering the overall population and the CSR and AR subgroups for each research question, thus offering multiple perspectives on the data.

For instance, in 2010, there were 19 articles, growing to 48 in 2015 and further expanding to 108 in 2020. This data reveals the distribution between CSR and AR and underscores the increasing volume of ESN research over the years.

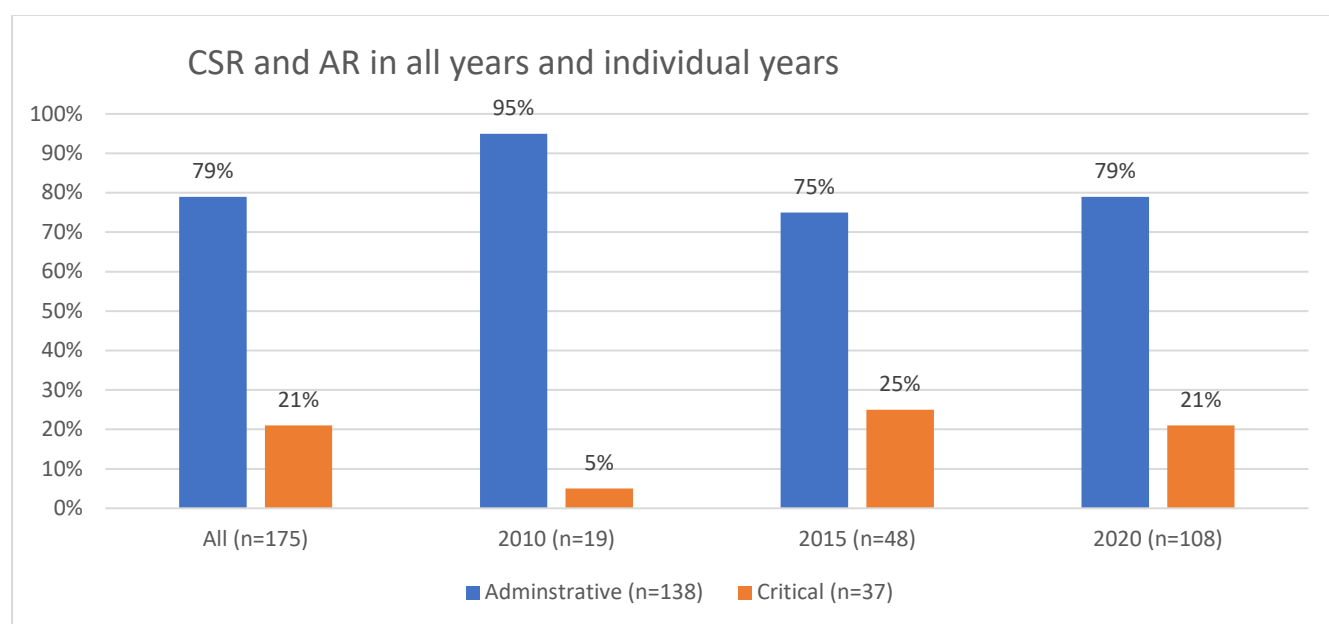
4.1. Research Trends

The analysis of research articles reveals a division between AR and CSR. This section quantifies the distribution of these categories. It examines the trends in ESN studies over time, focussing on the evolution of CSR on ESN use and comparing these findings with trends in AR.

4.1.1. Quantitative Analysis

Figure 4.1 shows the frequency and distribution of CSR and AR research in each and every year. There were no null results for this section as all articles not coded as CSR were grouped as AR.

Figure 4.1 - Frequency and Distribution of CSR and AR articles in all years (n=175), 2010 (n=19), 2015 (n=48) and 2020 (n=108).



The distribution of CSR and AR described in Figure 4.1 shows that of one hundred and seventy-five articles, 138 (79%) were administrative, while 37 (21%) were critical.

4.1.2. Research Over Time

Figure 4.1 also describes the evolution of ESN research, showing a shift in focus and methodologies.

- **2010:** Only one critical article out of 19 (5.56%).
- **2015:** CSR comprised 25% (12 out of 48).
- **2020:** CSR accounted for 21.43% (24 out of 108).

4.1.3. Interpretation

Figure 4.1 suggests that, initially, CSR was scarce (5%); however, by 2015, there was a notable increase (25%), indicating growing interest and recognition. Despite a slight reduction in 2020 (20%), the percentage remained relatively high, suggesting a stabilisation and consistent interest in CSR perspectives.

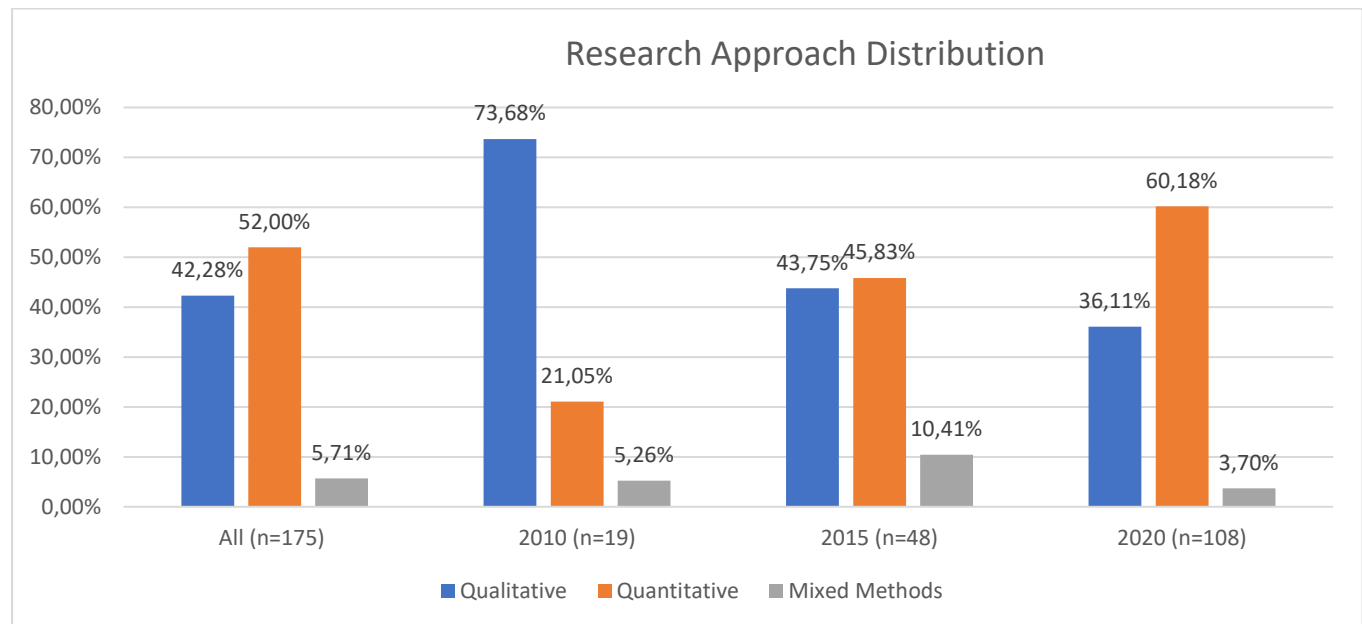
4.2. Research Methodologies

This section compares research approaches and designs. This study's approaches refer to qualitative, quantitative, or mixed methods; designs refer to either case studies or literature reviews (or other research designs). There are no null results for approaches as each article was coded as qualitative, quantitative, or mixed.

Where designs are concerned, null values are represented by ‘neither’, which refers to any research design other than a case study or literature review.

Figure 4.2 provides an overview of ESN research articles’ methodological approaches and designs from 2010, 2015, and 2020, highlighting trends and shifts.

Figure 4.2 - Methodological approaches in all the research in all years (n=175) and individual years, 2010 (n=19), 2015 (n=48), and 2020 (n=108).



4.2.1. Approaches Distribution

- Quantitative: 52%
- Qualitative: 42.28%
- Mixed Methods: 5.71%

Qualitative analysis started as the dominant approach, but quantitative analysis became more prevalent over time. Mixed methods peaked in 2015 (10.41%) but levelled off by 2020 (3.70%).

Figure 4.3 compares two research designs: case studies and literature reviews. Data on these designs were coded from the collected articles, as both frequently appeared in the research and were considered meaningful in analysing the overall body of research.

Figure 4.3 - Research designs over all years (n=175), 2010 (n=19), 2015 (n=48), and 2020 (n=108).

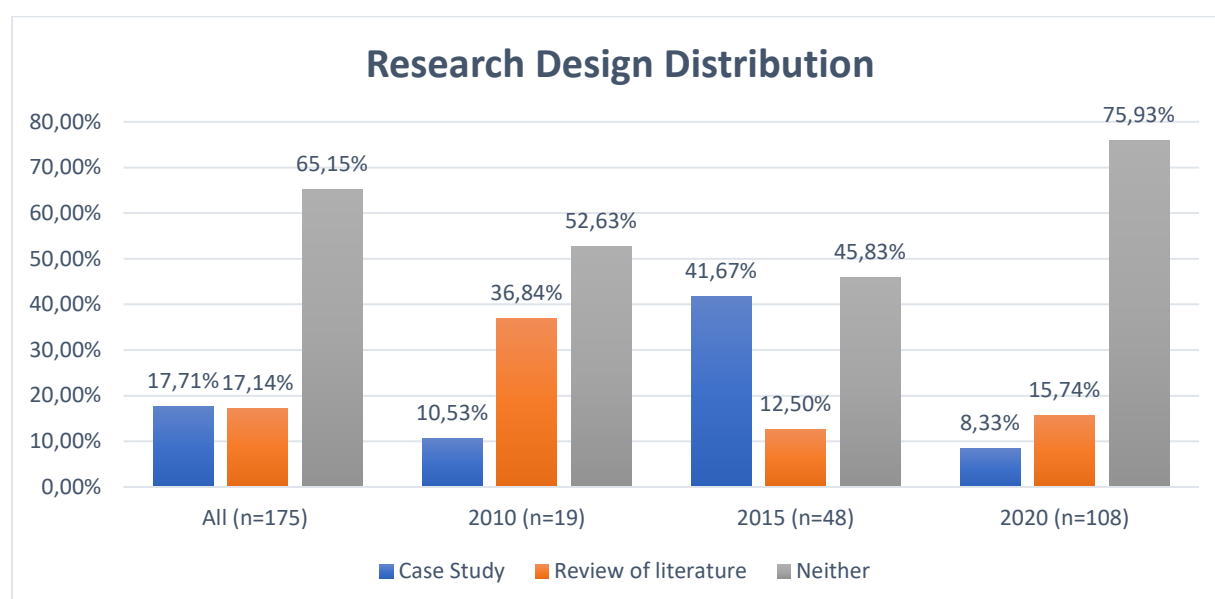


Figure 4.3 compares the frequency of these research designs to other designs labelled as ‘neither’. Literature reviews were significant in 2010 (36.84%), dropped in 2015 (12.50%), and increased slightly in 2020 (15.74%). Case studies fluctuated, peaking at 41.67% in 2015 and dropping to 8.33% in 2020. Overall, case studies and literature reviews each constituted about 17.00% of all research, with the rest not fitting these categories.

4.2.2. CSR studies

Figure 4.4 describes how the distribution of approaches and designs differed in the case of CSR studies.

Figure 4.4 shows that in 2010, the sole CSR paper was qualitative. From 2010 to 2020, qualitative studies declined (75.00% - 45.83%) while quantitative studies rose (16.67% - 54.17%), shifting towards more empirical approaches.

Figure 4.5 considers research designs in CSR and suggests that case studies became significant in 2015 (25.00%) but dropped sharply by 2020 (16.67%). Case studies and literature reviews are represented equally in the three combined years; however, the trend shifted from qualitative to quantitative methods over time, emphasising empirical and generalisable findings.

4.2.1. Administrative Studies

Figure 4.6 shows that AR is more frequently presented in quantitative approaches. Over time, the trend shifted from qualitative to quantitative methods, emphasising empirical and generalisable findings.

Figure 4.4 - Research approaches in CSR over all years (n=37), 2010 (n=1), 2015 (n=12) and 2020 (n=24).

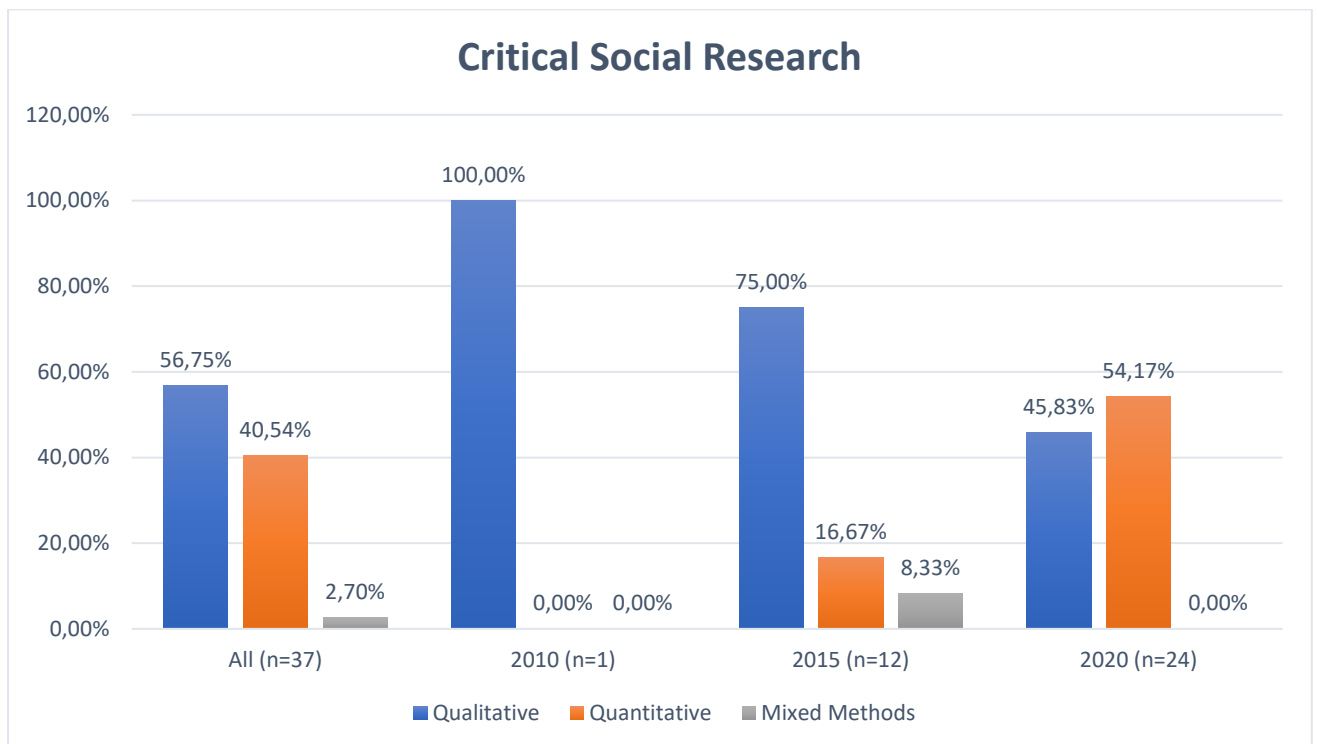


Figure 4.5 - Research designs in CSR (only) over all years (n=37), 2010 (n=1), 2015 (n=12) and 2020 (n=24).

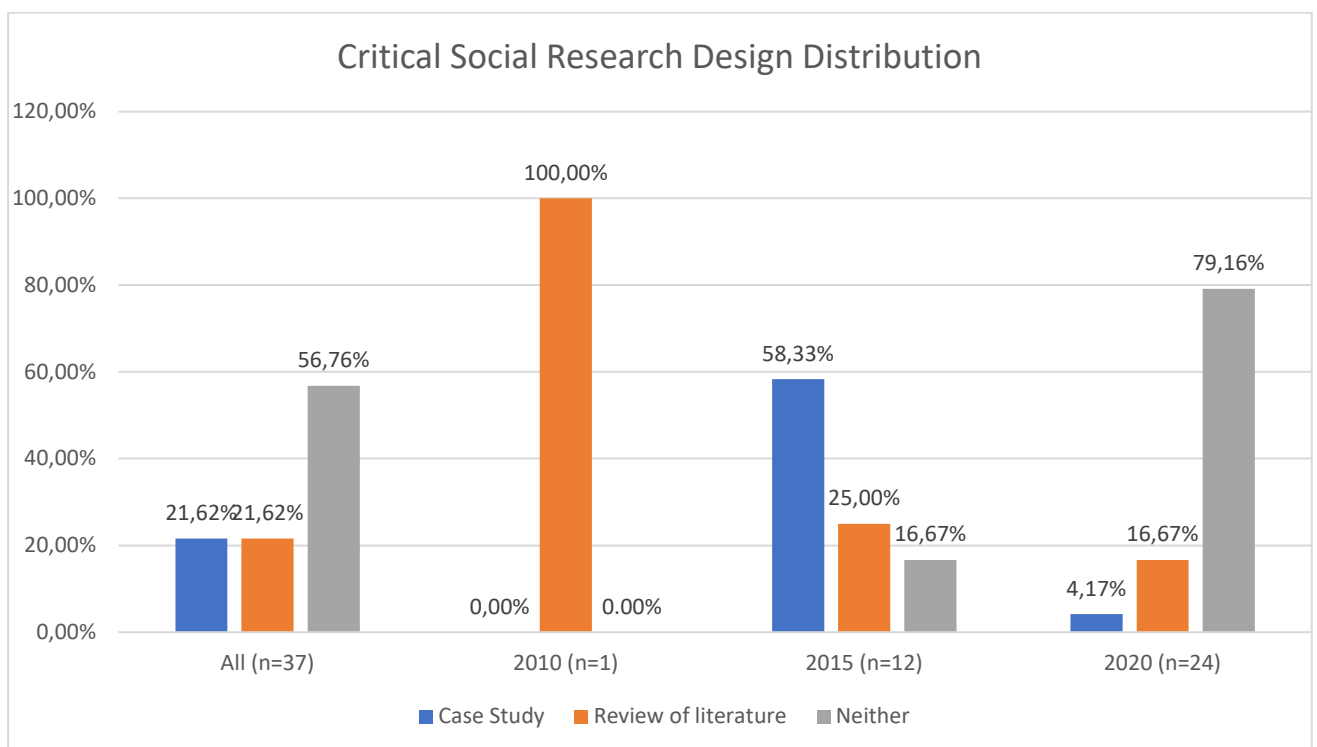
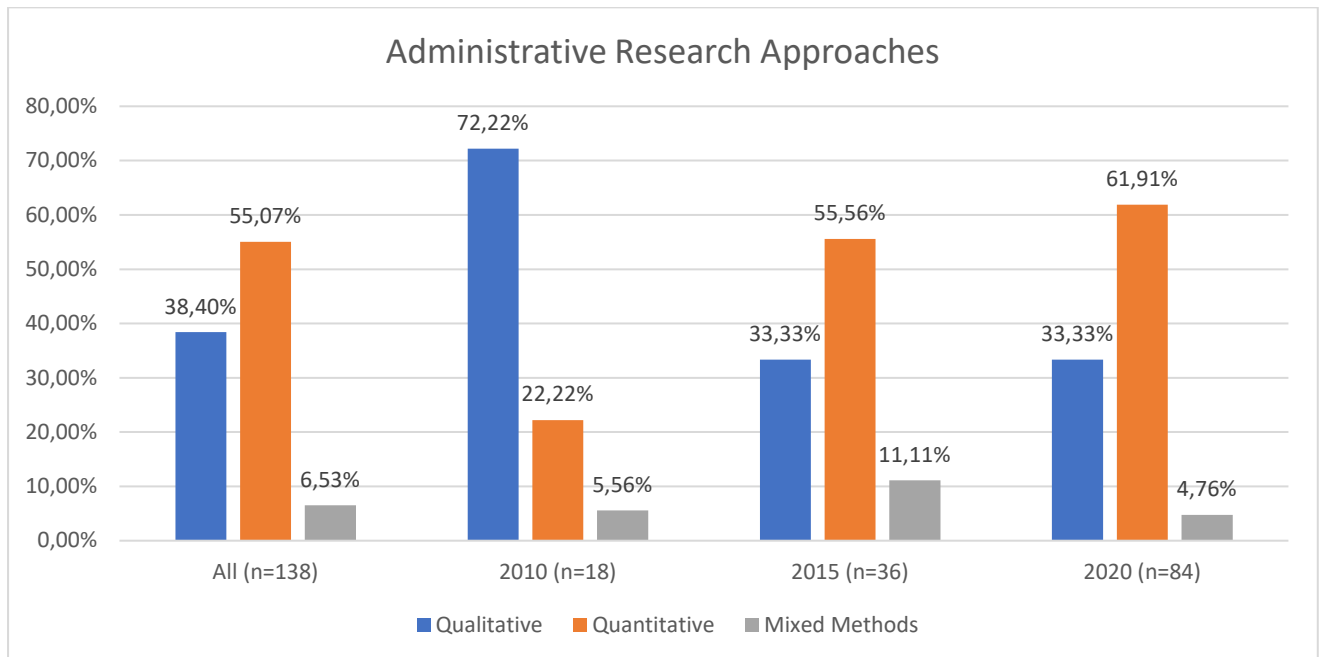


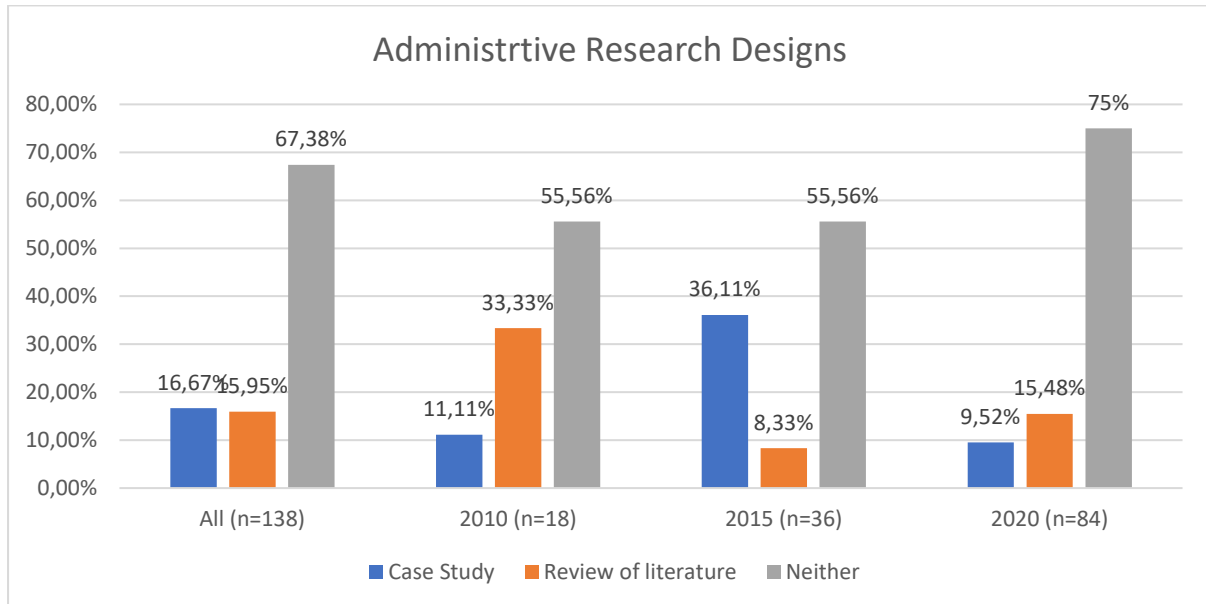
Figure 4.7 compares AR designs. Literature reviews were prevalent in research in 2010 (33.33%), whereas case studies were less common (11.11%). Conversely, in 2015, case studies dominated (36.11%).

Figure 4.6 - Approaches present in AR (only) over all years (n=138), 2010 (n=18), 2015 (n=36) and 2020 (n=84).



By 2020, both case studies (9.52%) and literature reviews (15.48%) had low representation compared to other designs (75.00%).

Figure 4.7 - Research designs in AR over all years (n=138), 2010 (n=18), 2015 (n=36) and 2020 (n=84).



4.2.2. Trends and Preferences

This section compares trends and preferences in research approaches and designs, highlighting the evolving landscape.

Approach Preferences:

- Quantitative approaches showed growing preference, moving towards empirical validity and statistical analysis.
- Qualitative methods continue to add depth to research.
- Mixed methods peaked and then declined, possibly reflecting fluctuating recognition of their utility.
- Qualitative and quantitative methods are used almost equally in CSR studies, highlighting their unique strengths.

Design Trends:

- Case studies and literature reviews show significant variation over the years; however, the prevalence of both dropped considerably in 2020.

The analysis reveals evolving preferences in approaches and designs in ESN research, reflecting a dynamic and maturing field.

4.3. Theories and Frameworks

This section explores the theories and frameworks used in ESN research over the years, highlighting shifts and trends in scholarly interest (For detailed descriptions of the pertinent theories, see Appendix [A]).

The data encoded as ‘theory’ in this study includes theoretical frameworks and conceptual models within the studies' theoretical background sections.

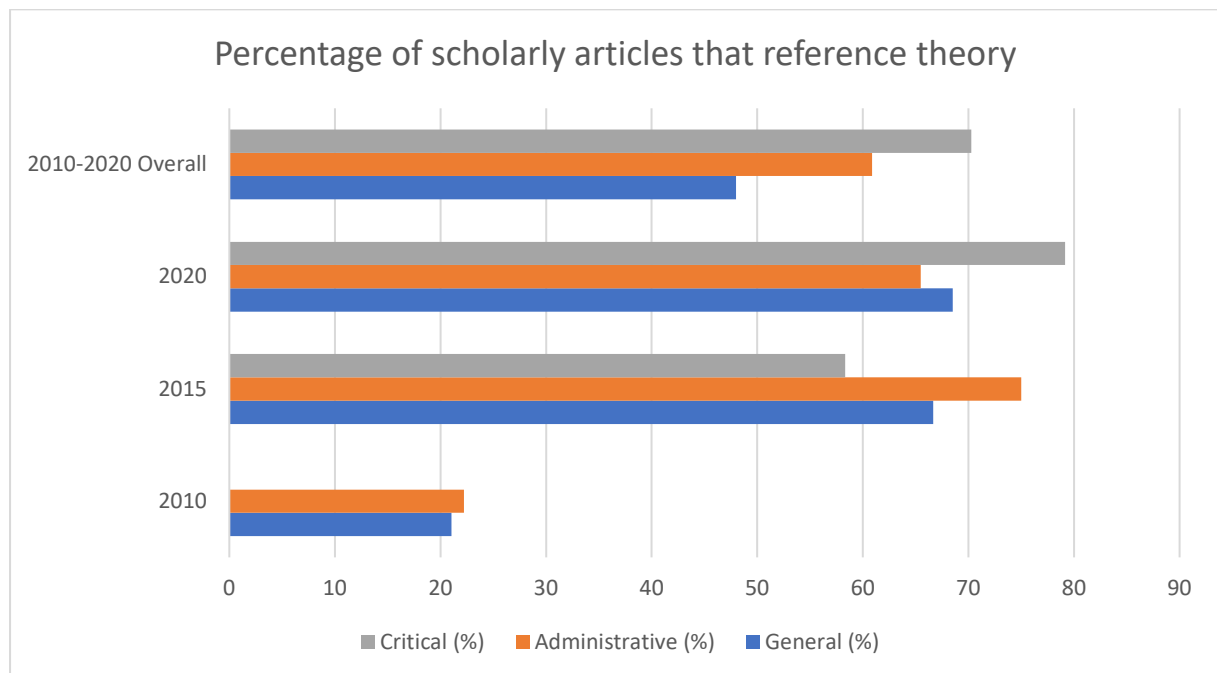
While distinctions exist between these components, they collectively provide foundational understanding and context for the research; they are grouped under the broader label of “theory” or “theories.”

4.3.1. Over All Years

Figure 4.8 explains the use of theory within the entire collection of articles across the selected years and includes comparisons within CSR, AR, and general categories.

In 2010, a small percentage of articles mentioned theory: specifically, 21.05% of general articles, 22.22% of AR articles, and none in the CSR category. By 2015, the incorporation of theory had increased significantly: 66.67% in general articles, 75.00% in AR articles, and 58.33% in CSR articles. This trend continued in 2020, with 68.52% of general articles, 65.48% of AR articles, and 79.17% of CSR articles referencing theory.

Figure 4.8 - The percentage of scholarly articles referencing theory within AR, CSR, or general categories from 2010 to 2020.



Across the entire decade (2010-2020), theory was mentioned in 48.00% of general articles, 60.87% of AR articles, and 70.27% of CSR articles.

4.3.2. Top Theories

Figure 4.9 describes the combination of the three years, showing that 84 articles (48.00%) were coded with a theory, while 91 articles (52.00%) were not.

Some articles were coded with multiple theories, resulting in 132 coded theories.

A few theories have been particularly influential (Figure 4.9). The top theories include social capital theory (SCT) (9.84%), affordances theory (AT) (8.33%), and technology acceptance theory (TAT) (3.78%).

Other notable theories, such as the Boundary Theory (BT), Grounded Theory (GT)¹, and Innovation Theory account for more than two mentions. The cut-off for including a theory as "significant" was set at more than two mentions.

¹ Grounded Theory (GT) is a research design aimed at developing theory from empirical data through iterative data collection and analysis. It is suitable for generating context-specific theories, such as in ESN research, and is considered a research design rather than a theory itself, though its main goal is theory development (Bryant & Charmas, 2007).

In 2010, 19 articles were reviewed, with only 4 (21.05%) referencing theory. These four articles collectively mentioned nine unique cases, representing 11.11% of those referenced in Table 4.1. The majority, 15 articles (78.95%), did not utilise a theoretical approach.

Figure 4.9 - Comparison of most frequently occurring theories in all articles (N=132), 2010 (n=8), 2015 (n=38) and 2020 (n=83).

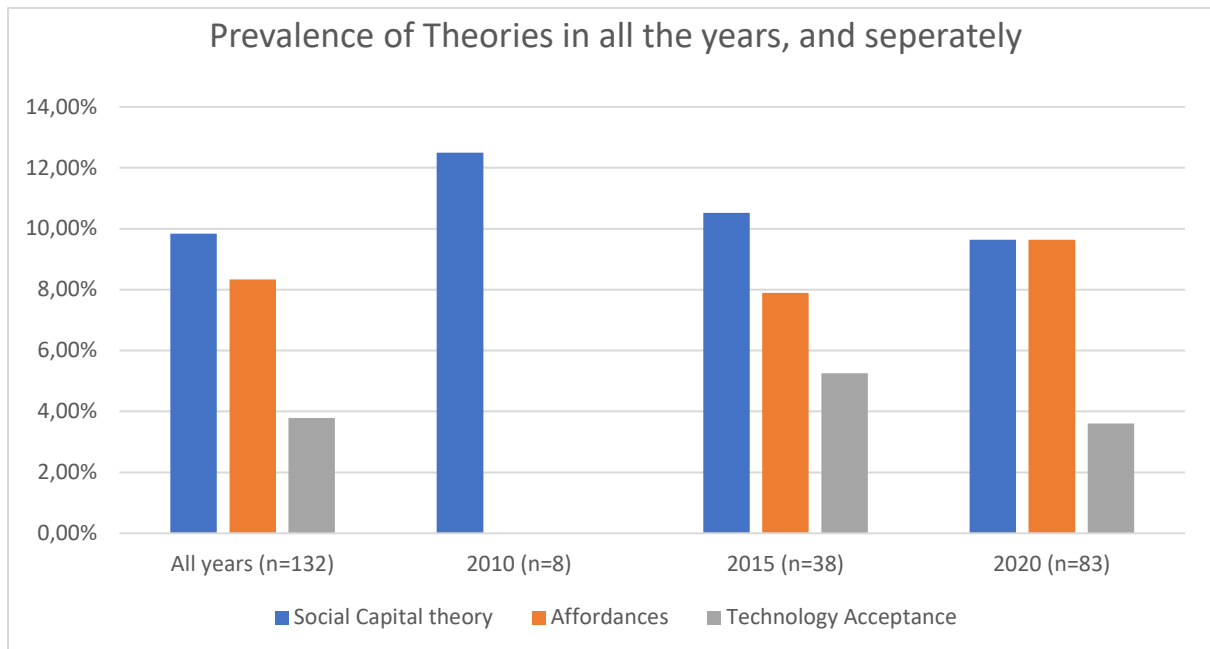
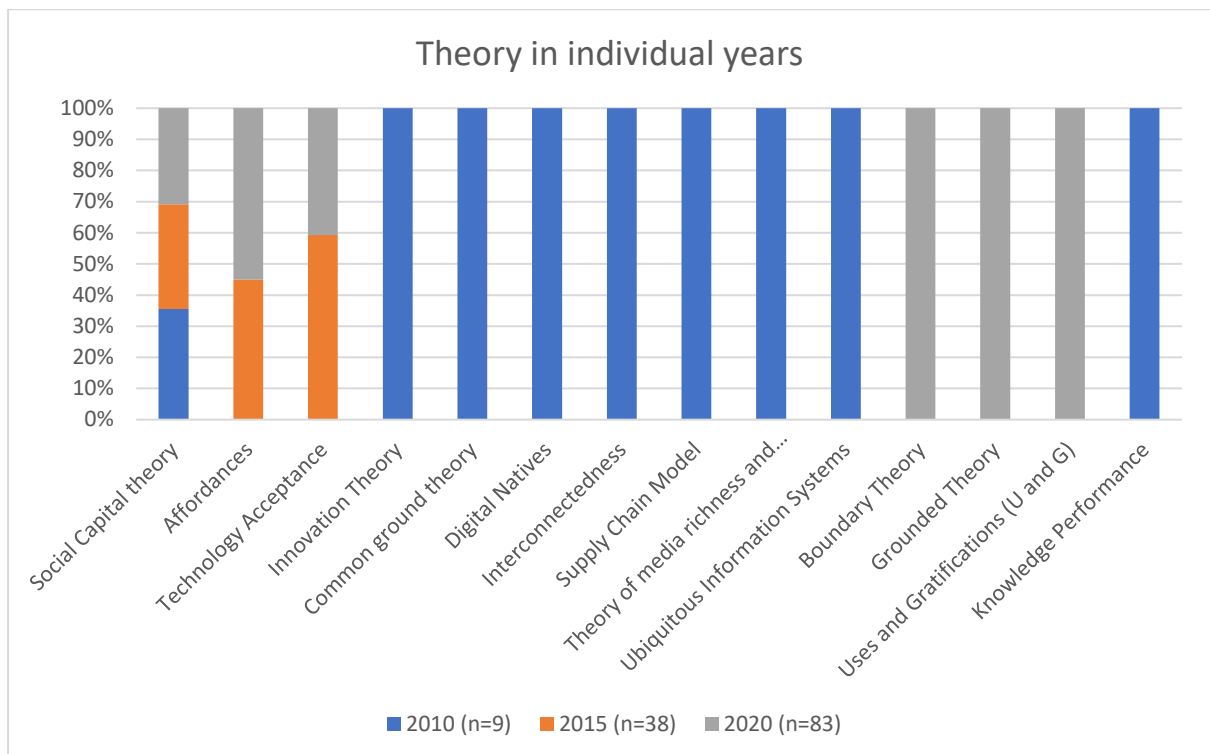


Figure 4.10 - Theories in 2010 (n=8), 2015 (n=38) and 2020 (n=83).



By 2015 (Figure 4.10), the number of articles increased to 48, with 32 (66.66%) mentioning theory and 16 (33.33%) not referencing any theoretical framework.

Table 4.1 – Unique Theories 2010

Table 4.1: Theories in 2010
Theories
Knowledge Performance
Ubiquitous IS
SCT
Innovation Theory
Common Ground Theory
Digital Natives
Interconnectedness
Supply Chain Model
Theory of Media Richness and Media Synchronicity

There were 38 mentions of theory in the 32 articles. Among the theories cited in these 32 articles, Social Capital Theory (SCT) (10.52%), Affordances Theory (AT) (7.89%), and Technology Acceptance Theory (TAT) (5.26%) were the most frequently mentioned.

In 2020 (Figure 4.10), the volume of articles increased to 108, with 74 (68.51%) incorporating theoretical references. These 74 articles included 83 mentions of theoretical approaches. AT and SCT were highlighted, each accounting for 9.64% of the mentions. Notably, the emergence of BT (3.61%) in 2020 reflects a growing interest in how ESNs impact the boundaries between work and personal life.

The analysis of theoretical distribution over the years reveals a maturation of the field.

- SCT and AT have consistently appeared, indicating their effectiveness in analysing the complexities of ESNs.
- The rise of BT in 2020 suggests an increasing focus on understanding the effects of ESNs on the balance between professional and personal lives.
- This trend provides valuable insights into ESN research's evolving discourse and expanding theoretical landscape.

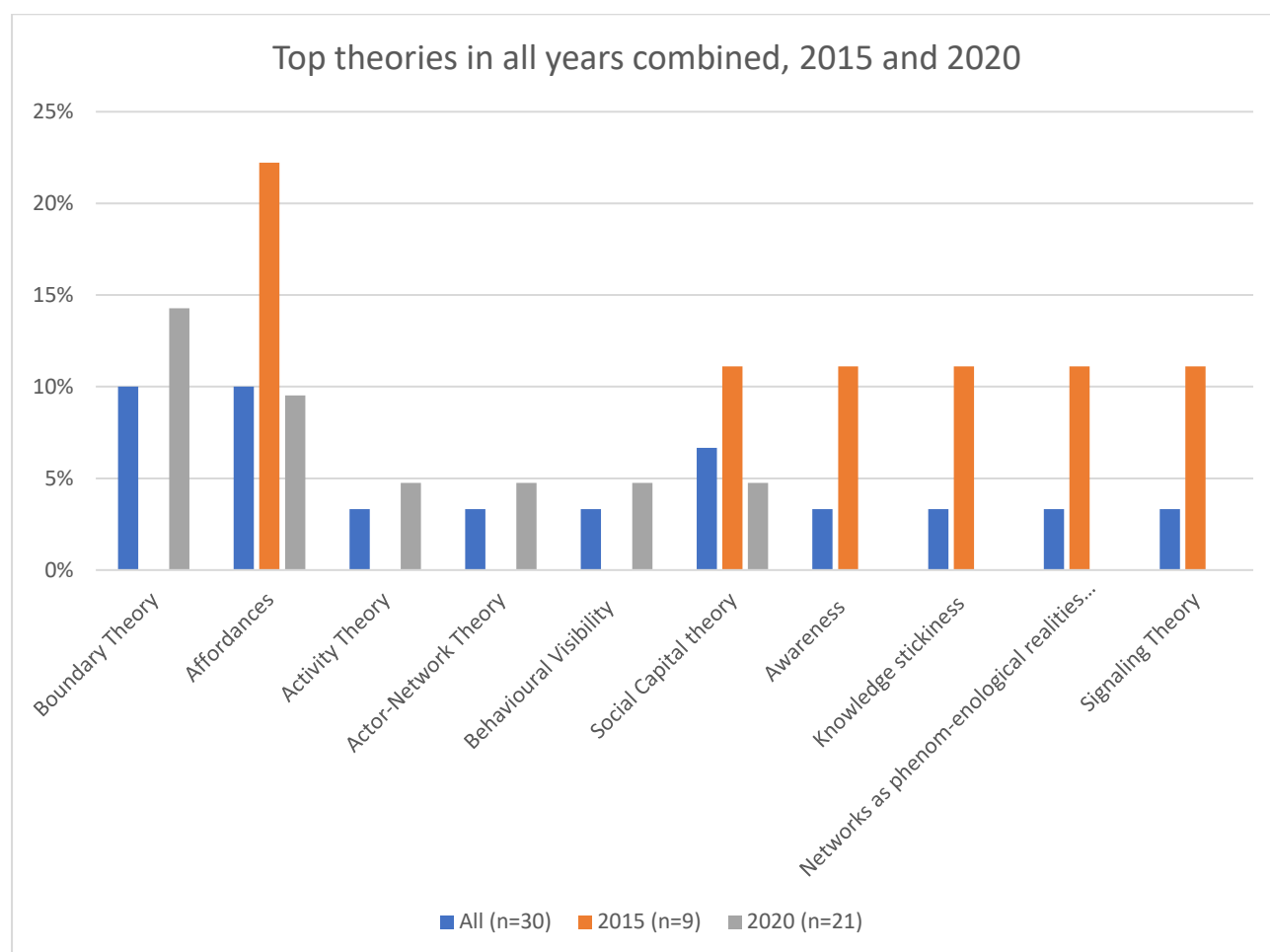
4.3.1. Theory in CSR

Figure 4.11 shows the top theories in CSR in all years combined, 2015 and 2020.

Of the 37 critical articles, 26 (70.27%) mentioned theory, with 30 mentions and 24 unique theories. AT and BT (10.00% each) were the most prevalent.

By 2015, the landscape of CSR had shifted significantly. Twelve critical articles were published that year, seven of which mentioned theory, resulting in nine mentions of theory overall.

Figure 4.11 - Top Theories in CSR in all years combined (n=30), 2015 (n=9) and 2020 (n=21)



Affordances Theory (AT) was uniquely notable among these, as it was the only theory mentioned more than once. The trend continued to evolve, and by 2020, when 24 critical articles were collected, 19 articles (79.16%) mentioned theory, while 5 (20.84%) did not. In total, 21 theories were mentioned in the 2020 CSR. Boundary Theory (BT) (14.28%) and AT (9.52%) emerged as the most prominent theoretical frameworks.

These findings highlight several insights: first, the dominance of AT and BT underscores the importance of understanding the capabilities of ESNs and their impact on the boundaries between work and personal life; secondly, the absence of TAT in CSR may indicate a shift towards themes like organisational boundaries and socio-technical affordances, which are gaining more attention in the field; and third, this varied focus suggests a deeper exploration of how technological affordances and boundaries shape the interaction between work and personal domains.

Figure 4.11 presents the top theories in CSR across all years combined (n=30), in 2015 (n=9), and in 2020 (n=21). The critical article published in 2010 did not employ a specific theoretical lens, marking an evolution in the inclusion of theory in CSR over the decade.

According to Figure 4.8 (section 4.3.1), the use of theory in scholarly articles varied across different categories from 2010 to 2020, including the CSR, AR, and general categories. In 2010, a theory was cited in 21.05% of general articles, 22.22% of AR, and none in CSR.

By 2015, theory inclusion rose to 66.67% in general, 75.00% in AR, and 58.33% in CSR articles. This trend persisted in 2020, with 68.52% of general, 65.48% of AR, and 79.17% of CSR articles mentioning theory.

Across the decade, theory was cited in 48.00% of general, 60.87% of AR, and 70.27% of CSR articles, indicating a broader context and the proportional use of theory in CSR.

4.3.2. Theory in AR

All AR Articles

Table 4.2 outlines the use of theory in AR articles specifically in 2010, 2015, and 2020. In 2020, there were 84 articles published, with 55 mentioning at least one theory. These 55 articles included a total of 101 theory mentions, but when considering only distinct theories, there were 70 unique ones. The most frequently cited theories in 2020 were Social Capital Theory (SCT) and Affordances Theory (AT).

In total, 138 administrative articles were reviewed, with 84 citing one or more theories, resulting in 102 theory mentions overall, and 70 unique theories. SCT was the most frequently referenced, followed closely by AT.

The progression from 2010 to 2020 reflects the field's growth. In 2010, AR was emerging with only 18 articles, four of which mentioned theories, indicating an exploratory phase. By 2015, the field expanded significantly to 36 articles, and the number of theories mentioned rose to

29, with 27 distinct theories. SCT and TAT were prominent, highlighting a developing understanding of administrative phenomena.

Table 4.2 - Theory in AR articles over all the years, in 2010, 2015 and 2020.

Table 4.2 - Theory in AR articles over all the years, in 2010, 2015 and 2020.					
Year	Articles Collected	Articles Mentioning Theory	Count of theories	Unique Theories	Most Frequently Cited Theories
2010	18	4	4	4	SCT, TAT
2015	36	29	29	27	SCT, TAT
2020	84	55	101	70	SCT, AT
All	138	84	102	70	SCT, AT

By 2020, the research volume more than doubled to 84 articles, with 55 incorporating theories. SCT and AT were the most cited, pointing to their increasing significance in AR. This trend highlights a shift towards a deeper understanding of the social and practical aspects of Enterprise Social Networks (ESNs) in the workplace.

The recurring focus on SCT and AT in 2020 underscores research interest in the social dynamics and practical applications of ESNs. This reflects a blend of established and emerging interests in how technology, user expectations, and organizational contexts impact the adoption and use of ESNs.

The data reveals trends in Corporate Social Responsibility (CSR), such as the prominence of AT and BT, indicating an interest in the socio-technical landscapes of ESNs. This focus sheds light on how these systems provide various possibilities for users. The consistent emphasis on SCT highlights the importance of networks and social interactions in organizational settings, reflecting their role in enhancing communication, collaboration, and knowledge sharing within enterprises.

4.3.3. Diversity Indices for Theories

This section uses diversity indices to analyse the variety and distribution of theories and theoretical approaches used in ESN research, distinguishing between CSR and AR studies over the years.

The Shannon Index (H') quantifies the uncertainty or entropy in the distribution of theories, with higher values indicating greater diversity and a more even distribution (Morris et al., 2014). The Simpson Index (D) measures the likelihood that two randomly selected articles

mention different theories, with higher values also signifying greater diversity and the absence of a dominant theory (2014).

These indices are calculated for the individual years 2010, 2015, and 2020 and for CSR and AR dimensions.

Table 4.3 shows that both indices increased from 2010 to 2020, indicating that ESN research has become more diverse in theoretical frameworks, relying less on dominant theories, and exploring a broader range of concepts.

Table 4.4 indicates that AR exhibits a higher diversity (Shannon Index of 4.248, Simpson Index of 0.976) than CSR (Shannon Index of 3.178, Simpson Index of 0.944).

Table 4.4 implies that AR studies utilise a broader and more evenly distributed range of theories, whereas CSR concentrates on fewer specific frameworks. The growing diversity over the years indicates a maturing field willing to explore various theoretical perspectives.

Table 4.3 - Diversity of theories in individual years (2010, 2015 and 2020).

Table 4.3: Diversity indices in individual years			
Year	Total Theories	Shannon Index (H')	Simpson Index (D)
2010	9	2.197	0.889
2015	38	3.637	0.957
2020	83	4.155	0.973

Table 4.4 - Diversity of theories in CSR and AR

Table 4.4: Diversity indices in CSR and AR research			
Dimension	Total Theories	Shannon Index (H')	Simpson Index (D)
Critical (CSR)	24	3.178	0.944
Administrative (AR)	70	4.248	0.976

CSR's focus on fewer theories may also reflect a deeper investigation into specific socio-technical aspects. AR's broader base underscores its exploratory nature; these trends highlight ESN research's dynamic, evolving nature, and theoretical underpinnings.

4.3.4. Theory and CSR

Several theories have proven particularly influential in CSR concerning ESN use. AT and BT are especially prominent, underscoring their relevance in examining ESN capabilities and their effects on the boundaries between work and personal life.

These theories offer crucial insights into the socio-technical landscapes of ESNs, focusing on the affordances, or action possibilities, that these networks enable for their users and how these shape work-life dynamics.

SCT concentrates on interpersonal network structures and social hierarchies within organisations and is also significant in CSR. SCT provides a lens to understand workplace relations and power dynamics, emphasising the importance of networks and social interactions in facilitating communication, collaboration, and knowledge sharing within enterprises. The sustained application of SCT reflects the recognised importance of these networks in organisational settings.

The prominence of AT, BT, and SCT suggests a keen interest in the socio-technical aspects of ESNs, particularly how these systems afford different possibilities for users and influence social interactions and organisational culture.

Integrating diversity indices like the Shannon and Simpson indices into ESN research reveals an evolving theoretical landscape. The growing theoretical diversity from 2010 to 2020 shows a broadening, maturing field. Specifically, for CSR, a Shannon Index of 3.178 and a Simpson Index of 0.944 indicate a rich variety of theories with moderate concentration, reflecting focused socio-technical explorations.

In contrast, AR exhibits higher theoretical diversity, with a Shannon Index of 4.248 and a Simpson Index of 0.976, suggesting it employs a broader array of theories to understand ESNs' impact on organisational processes. This diversity reflects a more exploratory approach, unlike the somewhat concentrated CSR.

As research on ESNs continues to evolve, these theories will likely remain central, providing a foundation for deeper exploration into how ESNs shape organisational behaviour and culture.

Future research may build upon these foundations, utilising diversity indices to track theoretical trends and guide investigations into the complex socio-technical landscapes of modern workplaces.

4.4. Themes

This section examines the main thematic areas within the collected research articles and explores the correlation of these themes with CSR perspectives. The analysis focuses on dominant themes, frequency, and significance across different articles and over time.

4.4.1. All Articles

A total of 175 articles were analysed, collectively mentioning 12 different topics or themes 185 times. All research articles were coded with at least one theme, ensuring no null results. The total number of themes mentioned equals 185, representing 100% of the coded instances.

Table 4.5 compares the distribution of themes across CSR (n=41), AR (n=144), and All (n=185) research groups. Key concerns include Employee Outcomes and Behaviours (23.00%) and Knowledge Management (16.21%), highlighting how ESNs impact employee reactions, behaviour, and knowledge assets.

Other significant themes are Usage & Adoption (11.89%), Collaboration & Community (9.00%), and Management & Leadership (8.64%), emphasising the importance of ESN integration, fostering cooperative efforts, and effective leadership strategies.

Table 4.5 - Comparison of critical (n=41), administrative (n=144) and all (N=185) research.

Table 4.5: Comparison of critical (n=41), administrative (n=144) and all (N=185) research.			
Category	All Groups (n=185)	Administrative (n=144)	Critical (n=41)
Employee Outcomes and Behaviours	43 (23.00%)	36 (25.00%)	6 (14.63%)
Knowledge Management	30 (16.21%)	24 (16.66%)	6 (14.63%)
Usage and Adoption	22 (11.89%)	18 (12.50%)	4 (9.75%)
Collaboration and Community	17 (9.00%)	12 (8.33%)	5 (12.19%)
Management and Leadership	16 (8.64%)	12 (8.33%)	4 (9.75%)
Organisational Outcomes	13 (7.02%)	11 (7.63%)	2 (4.87%)
Well-being	13 (7.02%)	1 (0.69%)	12 (29.26%)
Policy and Risk Management	11 (5.94%)	10 (6.94%)	1 (2.43%)
Information Technology (IT)	9 (4.86%)	8 (5.55%)	1 (2.43%)
Innovation	9 (4.86%)	9 (6.25%)	0 (0.00%)
Generational impact	2 (1.00%)	2 (1.38%)	0 (0.00%)
Environment	1 (0.54%)	1 (0.69%)	0 (0.00%)

Organisational Outcomes (7.02%) and Well-being (7.02%) reflect a balanced interest in organisational performance and individual health. Policy & Risk Management (5.94%), IT

Infrastructure (4.86%), and Innovation (4.86%) play moderate roles, while less emphasised areas like Generational Impact (1%) and Environment (0.54%) are emerging.

Critical Social Research (CSR)

Among 37 CSR articles, 41 themes were coded with well-being (29.26%) as the top concern, indicating a strong focus on employee health.

Employee Outcomes and Behaviours and Knowledge Management at 14.63% underscore the importance of organisational knowledge and employee reactions. Collaboration and Community (12.19%), Management and Leadership, and Usage and Adoption (9.75%) reflect a balanced interest in cooperation, leadership, and ESN integration. Organisational Outcomes (4.87%), IT Infrastructure, and Policy and Risk (2.43%) are less frequent but still significant.

Administrative Research (AR)

In the AR group, 138 articles were analysed with 144 themes coded. Employee Outcomes & Behaviours (25.00%) and Knowledge Management (16.66%) dominate, stressing ESNs' impact on employees and knowledge handling.

Usage & Adoption (12.50%), Collaboration & Community, and Management & Leadership (8.33%) highlight interest in ESN integration and organisational dynamics. Organisational Outcomes (7.63%) and Policy & Risk Management (6.94%) reflect a balanced interest in results and governance.

Summary

Employee Outcomes & Behaviours are a dominant theme across all groups, though less prominent in CSR (14.63%) than in AR (25.00%). Significantly, Well-being is emphasised in CSR (29.26%) versus AR (0.69%), indicating a strong focus on employee health in CSR perspectives. Innovation appears more frequently in AR articles (6.25%), suggesting a focus on practical applications and improvements in the AR domain.

Collaboration & Community are discussed more in CSR (12.19%) than in AR (8.33%), reflecting a higher interest in cooperative efforts within CSR. Policy & Risk Management and IT Infrastructure are less represented in CSR (2.43% each) than in AR (6.94% and 5.55%, respectively), highlighting their greater relevance in AR contexts.

4.4.1. Themes by Year

In 2010 (Figure 4.12), research on ESNs was in its early stages, with 19 articles, each coded with at least one of 9 themes.

The predominant theme was IT Infrastructure, which accounted for 26.32% of the themes, highlighting the technical aspects of ESNs during this initial phase. There was balanced interest in Collaboration and Community, Knowledge Management, and Policy and Risk Management, each representing 15.79% of the themes.

Emerging themes, such as employee outcomes and behaviours, generational impact, usage, and adoption, each constituted 5.26%.

Figure 4.12 - Comparative Themes for 2010 (n=19).

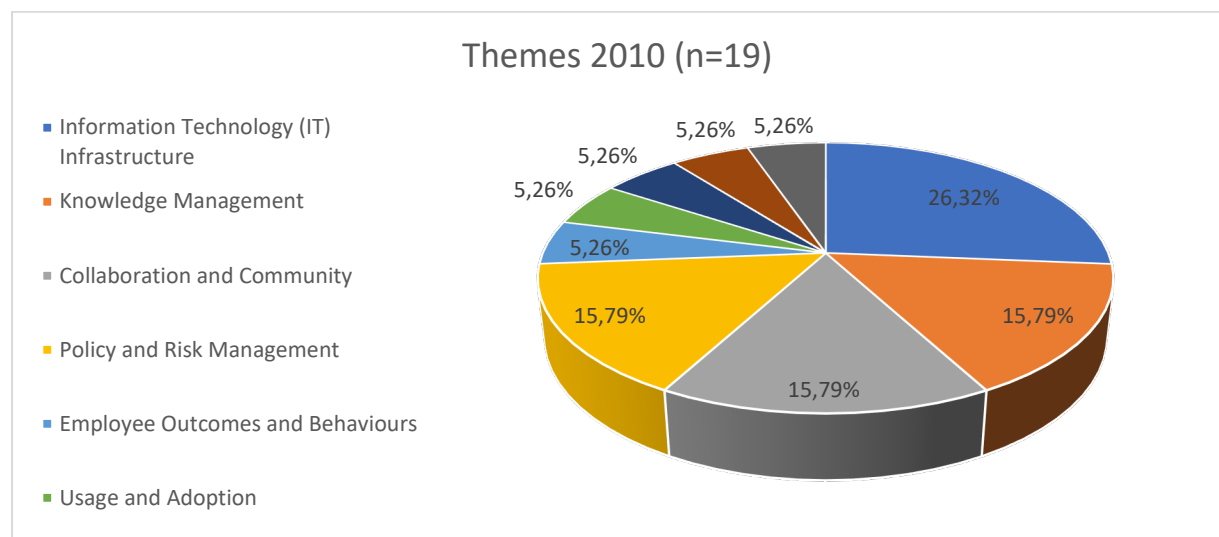
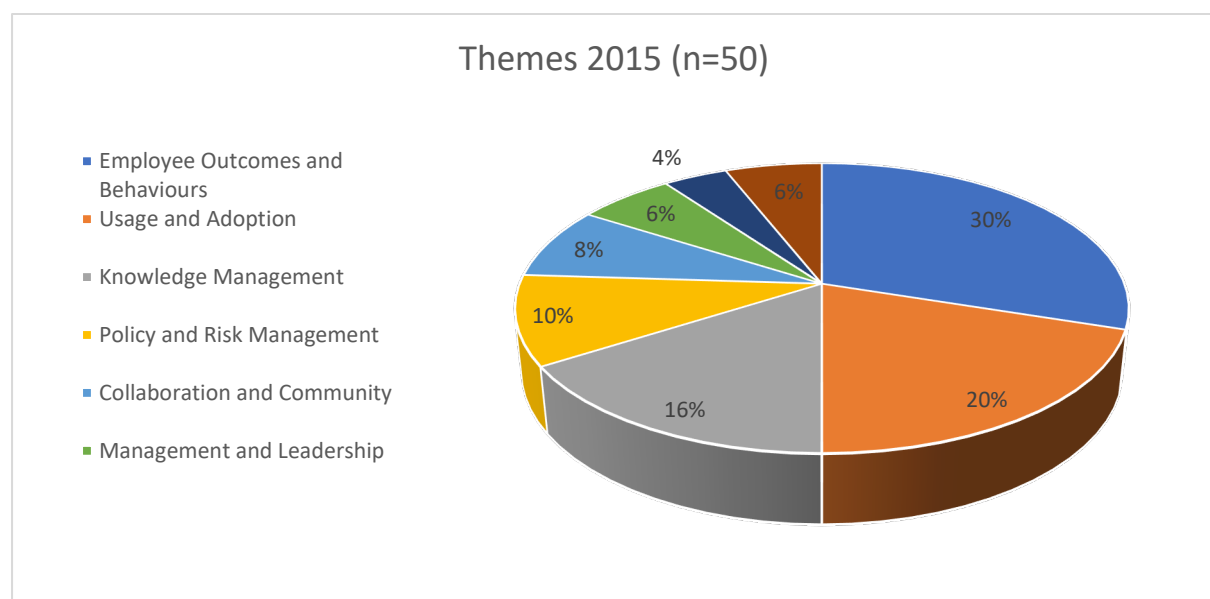


Figure 4.13 - Comparative Themes from 2015 (n=50).



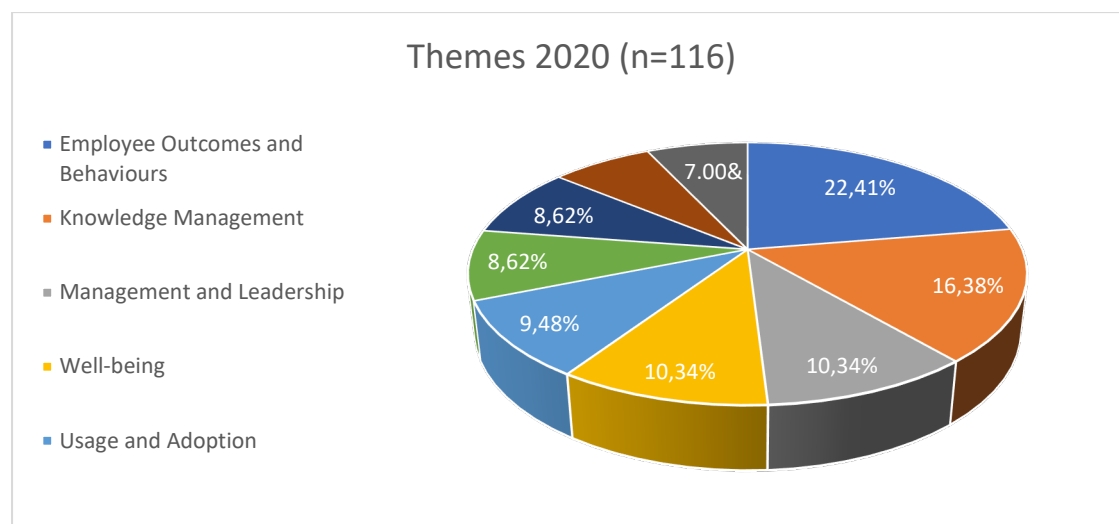
By 2015 (Figure 4.13), the research landscape had expanded significantly to 48 articles and 50 coded themes.

At this stage, the focus had shifted to Employee Outcomes & Behaviours, which comprised 30.00% of the themes, reflecting a growing interest in the impact of ESNs on employees; usage & adoption followed at 20.00%, indicating significant attention to how organisations embrace these networks. Knowledge Management remained a key theme, accounting for 16.00% of the topics, while Policy and Risk Management constituted 10.00%.

New themes like Well-being, Generational Impact, and Innovation emerged, representing 2.00% of the themes each.

In 2020 (Figure 4.14), the scope of research broadened considerably, with 108 articles and 116 coded themes. Employee outcomes & behaviours continued to dominate, representing 22.41%

Figure 4.14 - Themes from 2020 (n=116).



of the themes, indicating sustained interest in the effects of ESNs on employees. Knowledge management remained significant at 16.38%, and interest in well-being and management & leadership grew, each accounting for 10.34%, signalling new research directions. Usage & adoption and collaboration & Community maintained moderate attention at 8.62%, while innovation gained traction, comprising 7.00% of the themes. These insights indicate a clear evolution in research themes from 2010 to 2020.

In 2010 (Figure 4.12), the primary concern was IT Infrastructure, reflecting the early focus on the technical implementation of ESNs. Balanced interest in collaboration, knowledge management, and policy issues indicated a broader awareness of the potential impacts of ESNs,

while emerging themes hinted at future research directions, including employee outcomes and generational impacts.

By 2015 (Figure 4.13), research priorities had shifted significantly. Employee outcomes and behaviours became the dominant theme, showing a maturing interest in how ESNs affect employees and their usage patterns. Increased attention to usage and adoption highlighted a focus on integrating ESNs within organisations. Knowledge management and policy and risk management remained important, while new themes such as well-being, generational impact, and innovation suggested broadening research interests.

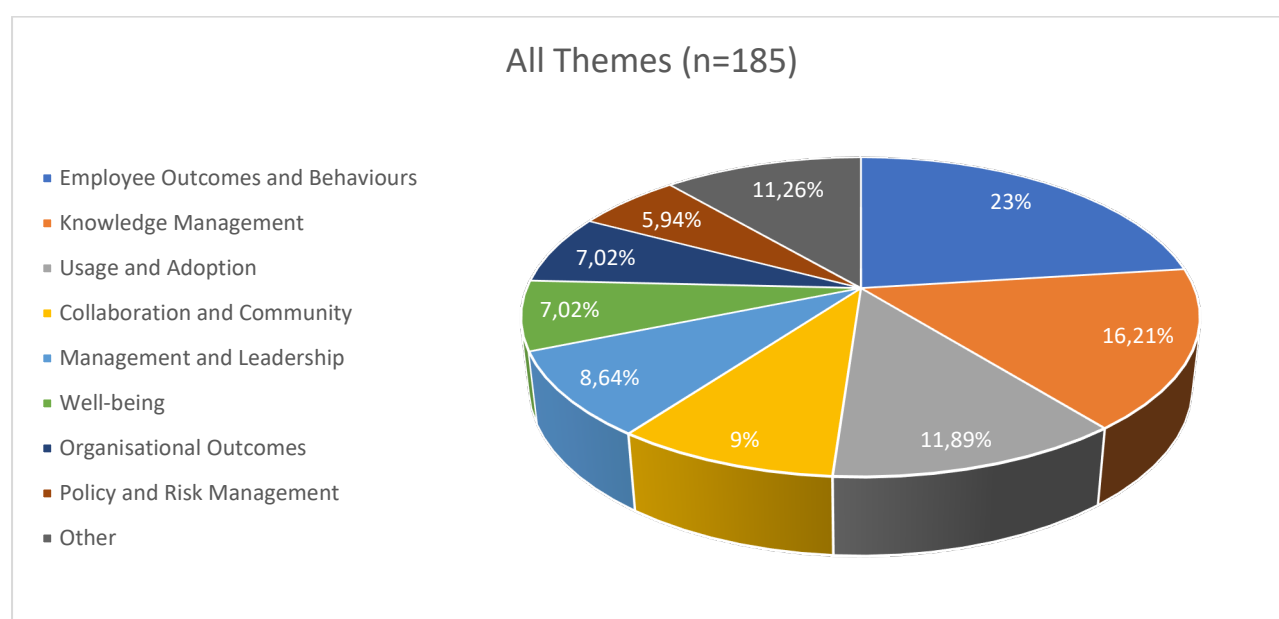
In 2020 (Figure 4.14), the trend towards employee-centric outcomes persisted. Employee outcomes & behaviours and knowledge management remained major themes while growing interest in well-being and management & leadership, pointed to new directions in ESN research. This shift reflects a focus on holistic and managerial aspects of ESNs.

Consistent attention to usage & adoption and collaboration & community, along with increased interest in innovation, indicated a move towards exploring novel applications of ESNs (Figure 4.15).

4.4.1. Critical Social Research by Year

In all the years combined (Table 4.6), the evolution of themes from 2010 to 2015 to 2020 shows a clear progression from initial technical concerns to a deeper understanding of the human and organisational impacts of ESNs.

Figure 4.15 - All Themes over all years (n=185).



The consistent presence of knowledge management highlights its critical role, while the emergence of well-being and, management & leadership in recent research points to a shift towards careful and strategic considerations in ESN studies.

This trend suggests that future research may continue to explore the broader, more subtle impacts of ESNs on organisational dynamics and employee well-being.

Table 4.6 - Distribution of themes in CSR in all years (n=41), 2015 (n=13) and 2020 (n=27).

Table 4.6: Distribution of themes in CSR in all years (n=41), 2015 (n=13) and 2020 (n=27).			
Critical Groups	All (n=41)	2015 (n=13)	2020 (n=27)
Collaboration and Community	5 (12.19%)	2 (15.38%)	3 (11.11%)
Employee Outcomes and Behaviours	6 (14.63%)	2 (15.38%)	4 (14.81%)
Environment	0 (0.00%)	0 (0.00%)	0 (0.00%)
Generational impact	0 (0.00%)	0 (0.00%)	0 (0.00%)
Information Technology (IT) Infrastructure	1 (2.43%)	0 (0.00%)	1 (3.70%)
Innovation	0 (0.00%)	0 (0.00%)	0 (0.00%)
Knowledge Management	6 (14.63%)	4 (30.76%)	2 (7.40%)
Management and Leadership	4 (9.75%)	1 (7.69%)	1 (3.70%)
Organisational Outcomes	2 (4.87%)	1 (7.69%)	1 (3.70%)
Policy and Risk Management	1 (2.43%)	1 (7.69%)	0 (0.00%)
Usage and Adoption	4 (9.75%)	1 (7.69%)	2 (7.40%)
Well-being	12 (29.26%)	1 (7.69%)	11 (40.74%)

Only one CSR article in 2010 focused solely on usage and adoption, indicating the early stages of critical examination.

By 2015 (Figure 4.16), the landscape had evolved, presenting 12 critical articles with 13 coded themes. Insights from 2015 reveal that the dominant theme was knowledge management, capturing 30.76% of the focus. There was also a balanced interest in Collaboration and Community and employee outcomes and behaviours, comprising 15.38% of the themes each.

The year 2020 (Figure 4.17) marked further progression in the field, showcasing 24 CSR articles and 27 themes; the emphasis shifted significantly to well-being, which accounted for 40.74% of the focus, indicating a growing concern for health and psychological impacts. Additionally, there was continued interest in employee outcomes & behaviours (14.81%) and collaboration& community (11.11%).

4.4.1. Administrative Research by Year

In 2010 (Figure 4.18), AR articles on ESN use primarily focused on IT infrastructure,

accounting for 27.77% of the articles, highlighting an early technical emphasis. Equally important themes were collaboration & community, knowledge management, and policy & risk management, representing 16.66% of the focus each.

Figure 4.16 - CSR from 2015 (n=13)

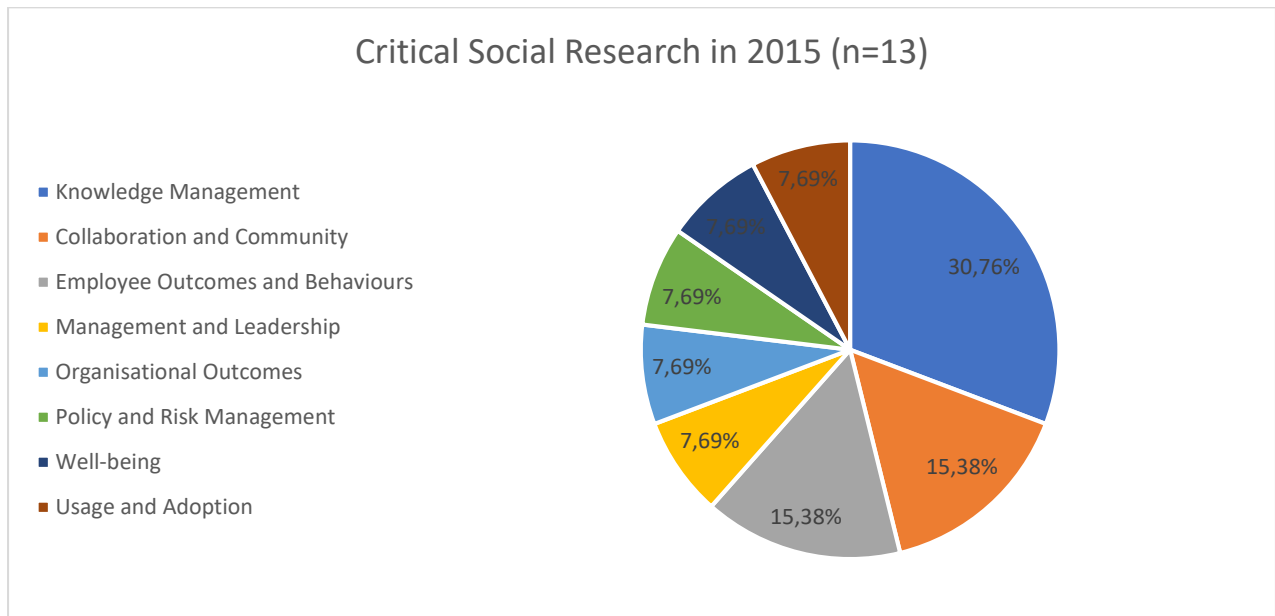
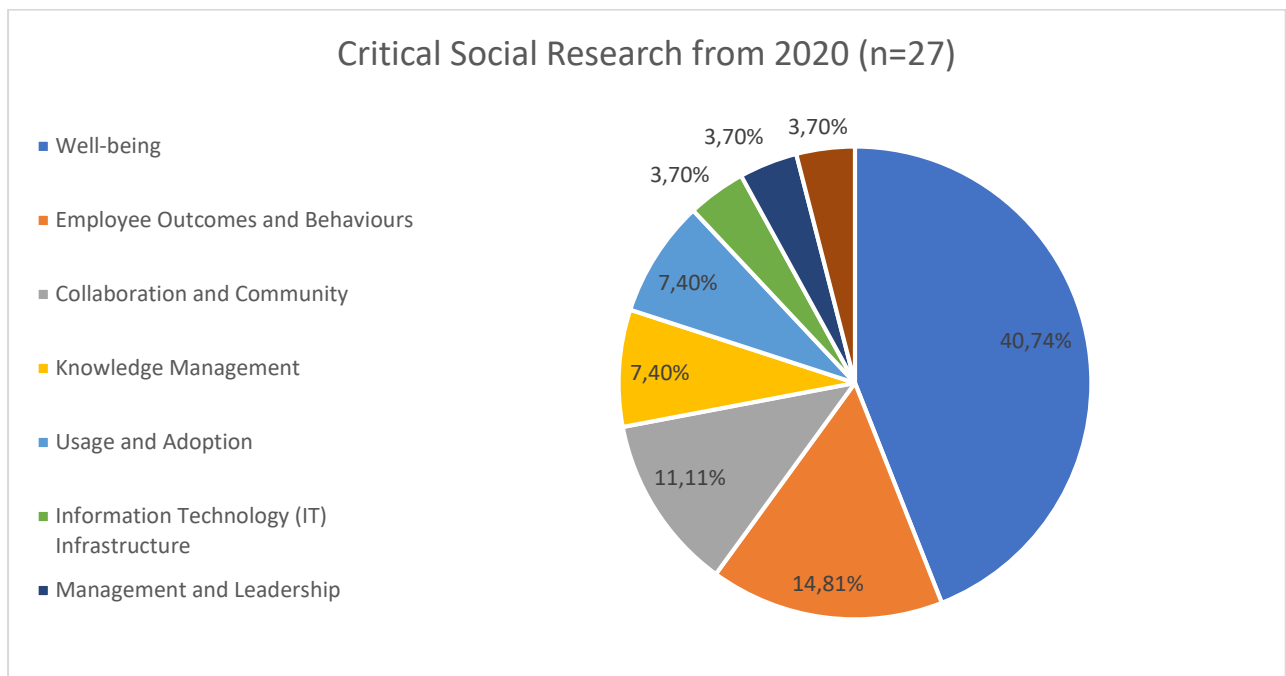


Figure 4.17 - CSR from 2020 (n=27).



This balanced distribution reflects initial efforts to create collaborative environments, manage organisational knowledge, and address policy-related risks alongside the deployment of ESNs.

By 2015 (Figure 4.19), the focus had shifted significantly towards understanding employee outcomes& behaviours, which dominated 35.13% of the articles on that theme.

Substantial attention was also given to usage & adoption (24.32%), underscoring organisational interest in how employees engage with these systems. Knowledge Management and policy & risk management continued to be relevant, each capturing 10.81% of the thematic focus, indicating their ongoing importance in the evolving landscape of ESN research.

In 2020 (Figure 4.20), the thematic focus became more balanced while emphasising employee outcomes & behaviours, constituting 24.71% of the articles. Knowledge management also received significant attention at 19.10%, underscoring its growing importance.

Other notable thematic areas included management & leadership, organisational outcomes, and usage & adoption, each representing 10.11% of the articles. This reflects a more mature and integrated research approach that considers technological and human factors associated with ESNs.

Figure 4.18 - Figure 4.18 - AR from 2010 (n=18).

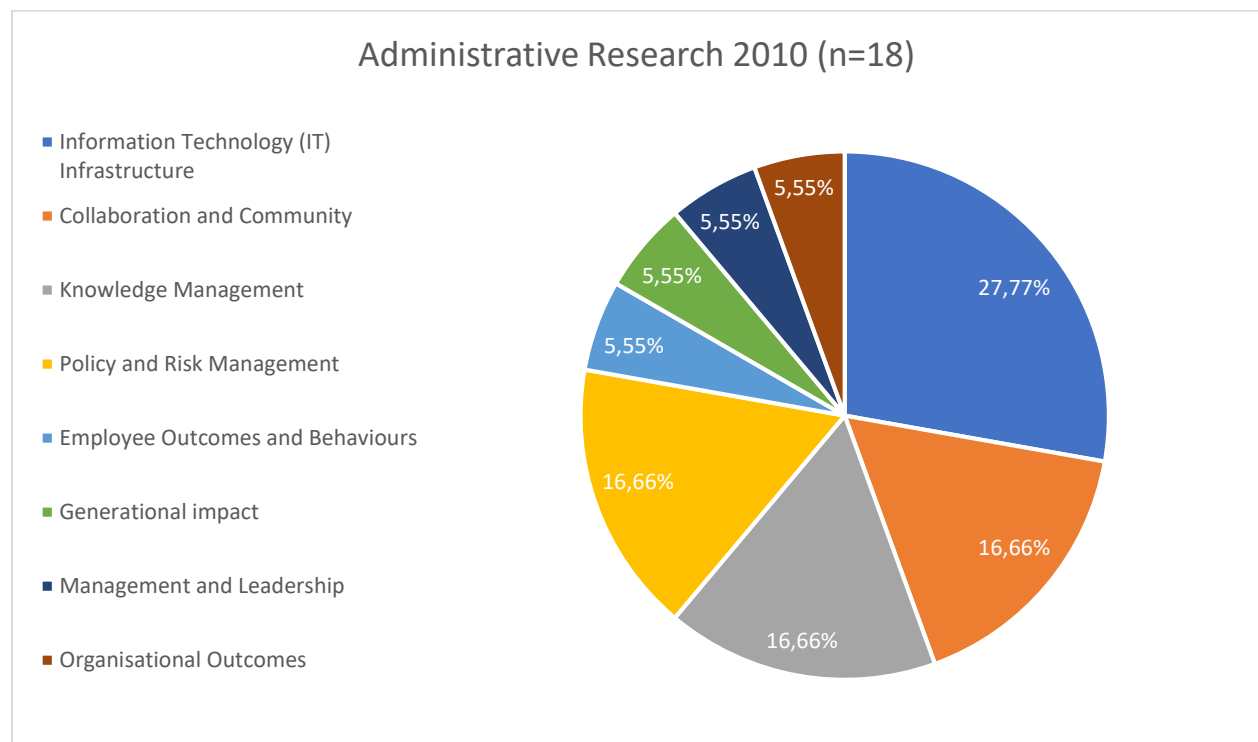


Figure 4.19 - AR 2015 (n=37).

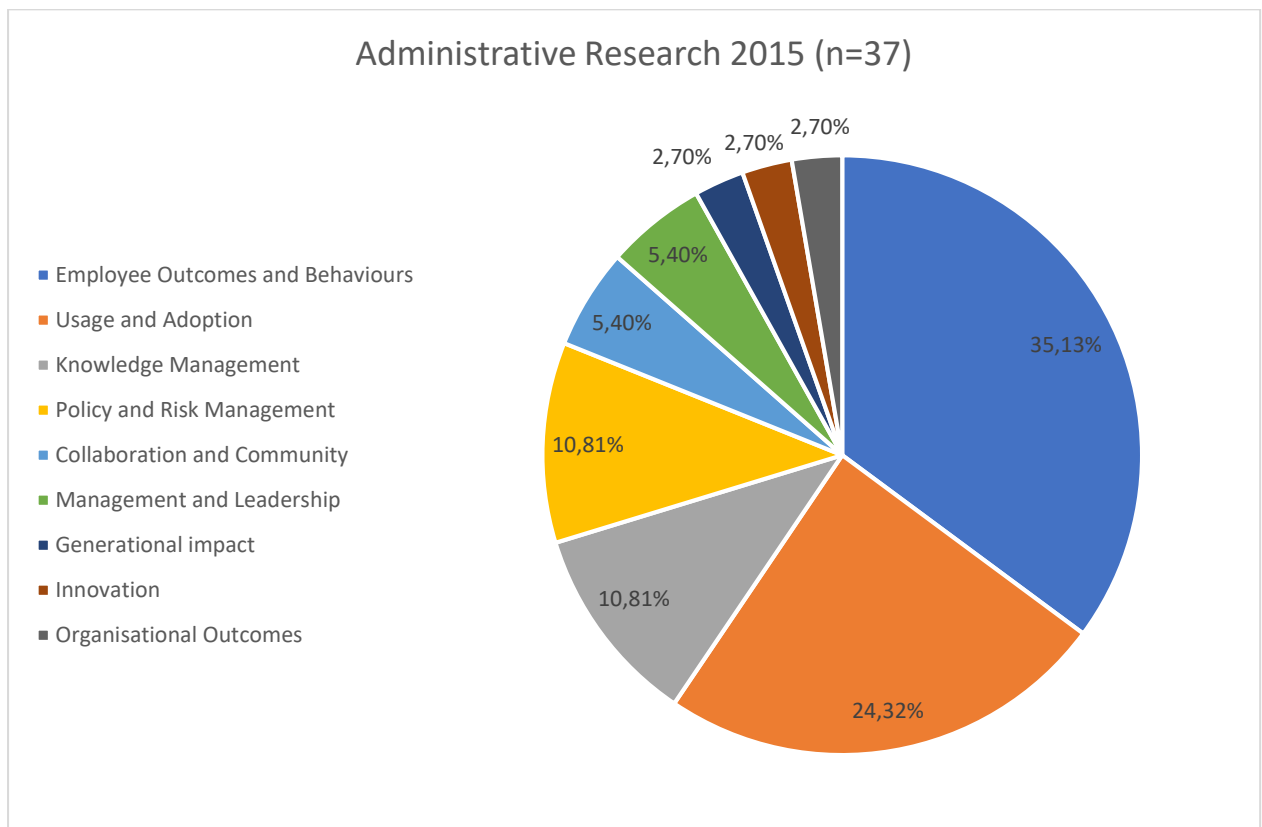


Figure 4.20 - AR 2020 (n=89).

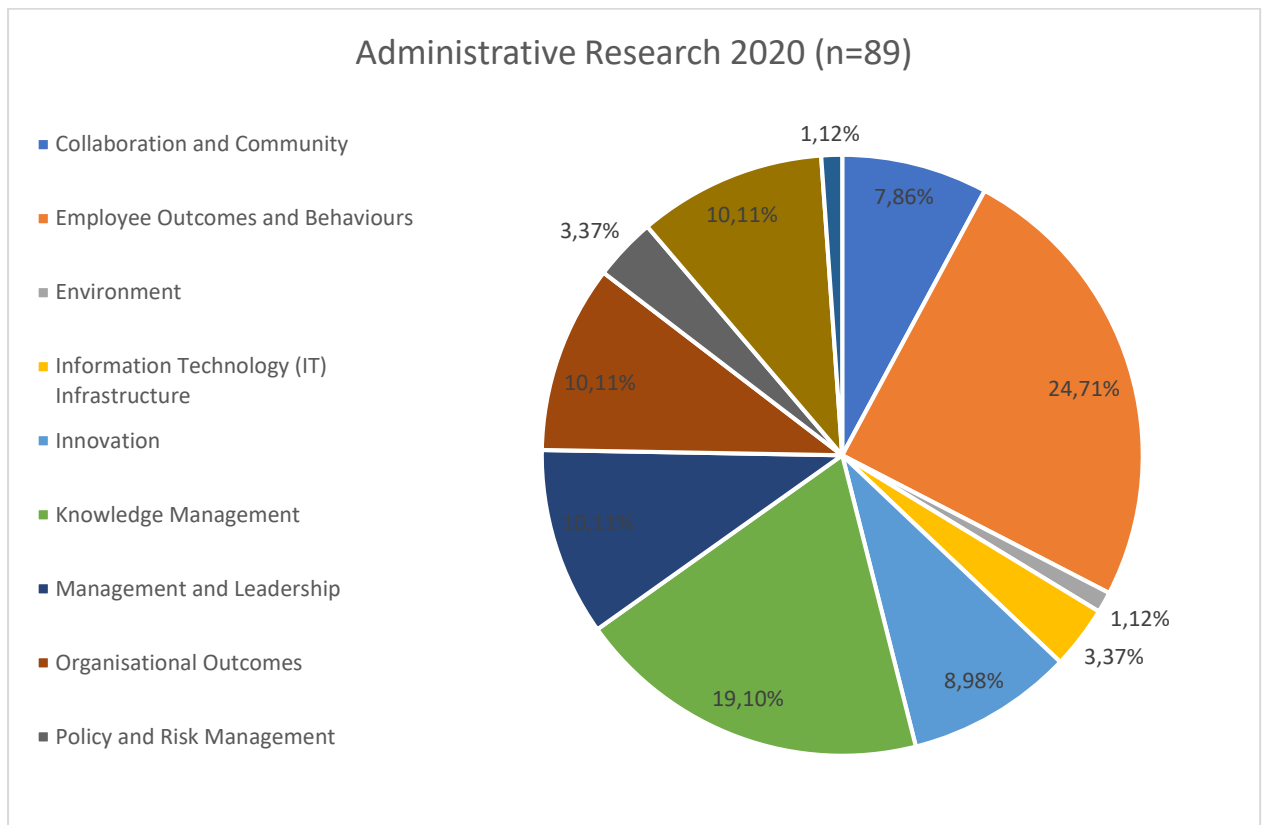


Figure 4.21 - AR from 2010, 2015, and 2020 combined (n=144).

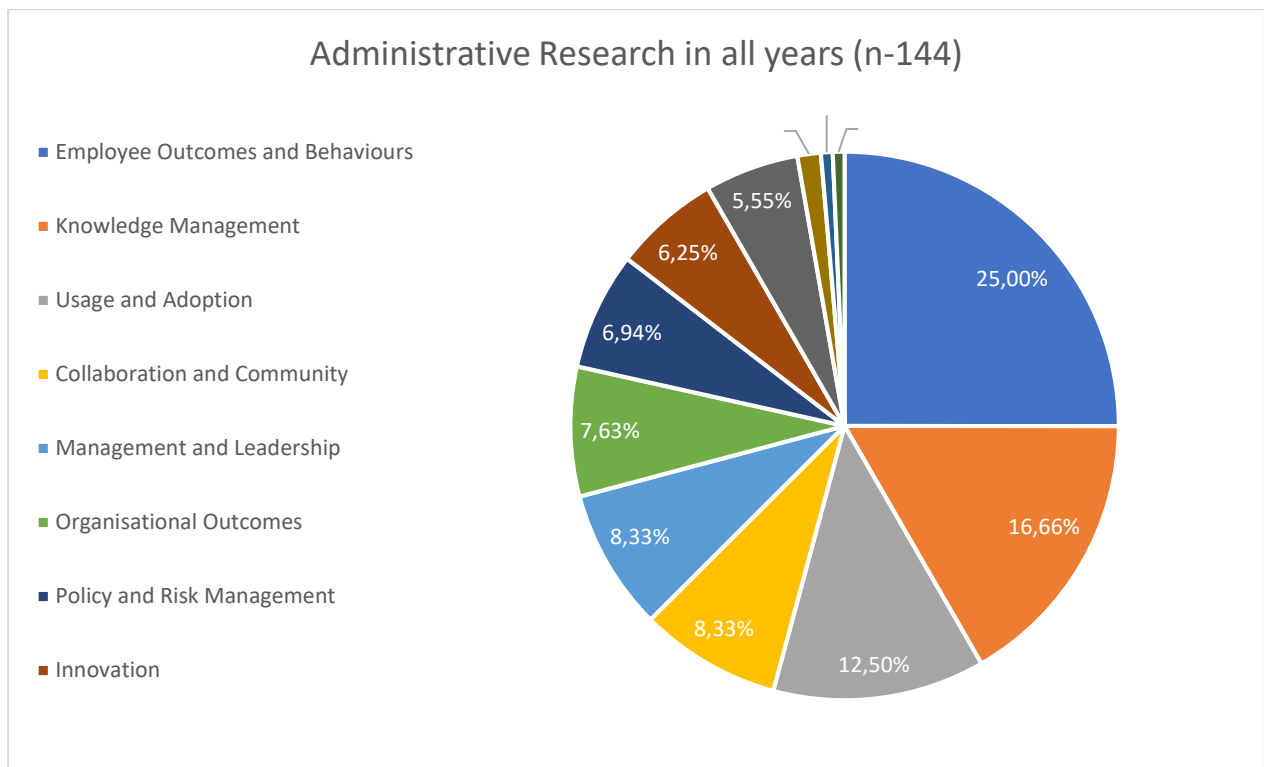


Figure 4.21 shows that from 2010 to 2020, there has been a clear evolution from a technical infrastructure focus to a detailed understanding of ESNs' impact on employees and organisational dynamics.

This progression indicates a maturation in the role of ESNs, evolving from a foundational technical setup to a comprehensive appreciation of their broader organisational implications.

This shift enhances the effectiveness and value of ESNs, underscoring their importance in facilitating technical, human, and organisational advancements.

4.4.1. Diversity Indices for Themes

This section uses diversity indices to analyse the variety and distribution of themes mentioned in articles over the years.

Diversity indices evaluate the variety and distribution of themes. The Shannon Index measures the uncertainty or entropy associated with the distribution of themes, indicating a more even distribution with higher values (Table 4.7). In contrast, the Simpson Index assesses the probability that two randomly selected articles will cite different themes, with higher values suggesting no single dominant theme (Table 4.8). These indices provide a deeper understanding of thematic diversity and their relative abundances.

These indices are calculated for the years 2010, 2015, and 2020, as well as for CSR and AR dimensions.

2010

CSR (0.70): Lower diversity indicates a concentrated focus on a few themes, such as IT infrastructure.

AR (0.87): Slightly higher diversity, showing a more balanced distribution of themes even in the early research stage.

2015

CSR (1.34): Significant increase in diversity, reflecting a more comprehensive array of themes, particularly around employee outcomes and knowledge management.

AR (1.25): Consistently high diversity, with significant themes like employee outcomes and usage & adoption becoming prominent.

Shannon's Diversity Index (H')

Table 4.7 - Shannon's Diversity Index (H')

Table 4.7: Shannon's Diversity Index (H')		
Year	CSR (n=41)	AR (n=144)
2010	0.70	0.87
2015	1.34	1.25
2020	1.67	1.55

2020:

CSR (1.67): The highest diversity indicates a mature field with a rich mix of themes, highlighting well-being and collaboration.

AR (1.55): Consistently high diversity, reflecting a comprehensive exploration of ESNs' impact on various themes.

2010

CSR in 2010 had a moderate diversity index of 0.50, reflecting initially focused research areas primarily on technical aspects like IT infrastructure. AR had a higher diversity index of 0.61, indicating broader

Simpson's Diversity Index (D)

Table 4.8 - Simpson's Diversity Index (D)

Table 4.8: Simpson's Diversity Index (D)		
Year	CSR (n=41)	AR (n=144)
2010	0.50	0.61
2015	0.76	0.71
2020	0.83	0.79

thematic coverage with early explorations into collaboration and policy impacts.

2015

By 2015, CSR diversity increased to 0.76, showing balanced interest across multiple themes, such as employee outcomes and knowledge management, reflecting a growing interest in the human aspects of ESNs. AR maintained a high diversity index of 0.71, emphasising practical applications like usage, adoption, and policy & risk management.

2020

In 2020, CSR (Table 4.8) reached a very high diversity index of 0.83, reflecting a well-rounded exploration of ESN themes, focusing on well-being and collaboration, indicative of a mature and nuanced understanding of ESNs' socio-ethical implications. AR maintained a high diversity index of 0.79, demonstrating an extensive and balanced thematic spread, reflecting comprehensive investigations into ESNs' effects on organisational dynamics and employee well-being. The increasing diversity indices from 2010 to 2020 highlight the field's maturation.

Early studies concentrated on technical implementation, while recent research has shifted to broader human and organisational impacts. High diversity in recent years indicates a balanced approach, integrating ethical considerations and practical applications.

Future research should explore the impacts of ESNs further, ensuring that technological advances support inclusive organisational practices.

4.4.2. Themes and Critical Social Research Perspectives

The analysis of research themes on ESNs reveals practical benefits and socio-ethical implications, with diversity indices providing insights into evolving emphases. CSR on ESN use prioritises employee health and addresses psychological risks associated with ESN use, recognising the broader implications of digital tools on mental health and organisational culture. Constant connectivity can lead to digital fatigue, making balanced usage policies essential. The 2020 diversity index indicates a mature understanding of these socio-ethical implications, focusing on well-being.

Regarding employee outcomes & behaviours, CSR perspectives emphasise ethical and humanistic aspects, while AR targets performance enhancement. Integrating both perspectives can create policies that boost productivity without compromising satisfaction or ethics. More recent diversity indices reflect a comprehensive approach incorporating ethical considerations with practical applications.

For knowledge management, CSR questions the power dynamics in knowledge dissemination, assessing whether ESNs democratise information or sustain hierarchies. While ESNs have the potential to democratise knowledge, existing power structures may limit their effectiveness. Intentional design and management are necessary to ensure equitable information access, with the 2020 diversity index underscoring the growing complexity and inclusivity of knowledge management themes.

Research distinguishes genuine community engagement from managerial imposition regarding collaboration & community. Usage studies emphasise inclusive ESN integration practices, noting that successful community building often requires a cultural shift towards openness and trust. Increased thematic diversity highlights a refined focus on fostering collaboration and community through cultural shifts.

Regarding management and leadership, CSR supports participative models that challenge traditional hierarchies. Leadership training should incorporate ESN tools to foster participative leadership styles and enhance collaboration. Evolving diversity indices suggest that themes around management & leadership are becoming more varied and sophisticated, reflecting a shift towards participative leadership models.

Overall, integrating diversity indices provides a comprehensive view of thematic evolution.

- In 2010, the focus was on technical implementation with moderate diversity.

- By 2015, there was increased diversity with a shift towards human-centric themes.
- By 2020, the highest diversity was observed, indicating a mature and balanced approach to understanding the broader impacts of ESNs.

This maturation from technical concerns to human and organisational outcomes highlights the importance of balancing technological advancements with supportive organisational cultures and practices.

4.5. Emerging Trends

Over the years, the proportion of CSR on ESNs has experienced significant growth, although it remains a minority compared to AR.

- In 2010, only 5.56% of ESN research was CSR.
- By 2015, this number had increased to 25%.
- In 2020, it stabilised at 21.43%.

This reflects a consistent interest in examining ESNs through a CSR lens.

In recent years, CSR has emphasised well-being, employee outcomes & behaviours, knowledge management, collaboration, and community.

Notably, 40.74% of articles in 2020 focused on well-being, questioning the impact of ESNs on stress, work-life balance, and mental health.

Investigations into employee outcomes & behaviours, critique organisational practices and power dynamics, while knowledge management research examines whether ESNs promote inclusive knowledge sharing or reinforce existing hierarchies. Furthermore, collaboration and community-building efforts are scrutinised for potential managerial control.

CSR methodologically shows a balanced approach with slightly more quantitative methods (40.54%) than qualitative methods (37.84%), allowing for comprehensive explorations of socio-technical dynamics, power relations, and employee experiences.

Common theories and theoretical frameworks utilised in this research include Affordances Theory (AT), Boundary Theory (BT), and Social Capital Theory (SCT), each exploring the influence of ESNs on organisational hierarchies, autonomy, and work-life integration.

Comparative analysis reveals that while AR predominantly focuses on efficiency, usage, and infrastructure, CSR delves into socio-ethical implications, well-being, agency, and

organisational culture, highlighting the necessity of integrating both perspectives to understand ESNs holistically.

The increased relevance of CSR has been particularly noticeable in response to contemporary issues such as the COVID-19 pandemic, which seemingly intensified the focus on digital tools' impact on mental health and well-being. This demonstrates the critical importance of examining ESNs' influence during such crises.

Moreover, diversity indices such as the Shannon and Simpson Index provide deeper insights into the evolving landscape and thematic emphases over time. The increasing diversity indices from 2010 to 2020 in both CSR and AR underscore a maturing field, suggesting a broader and more evenly distributed range of theories in AR (Shannon Index 4.248 and Simpson Index 0.976) versus a more focused exploration in CSR (Shannon Index 3.178 and Simpson Index 0.944).

The field of ESN research has seen substantial growth in CSR, expanding from 5.56% of all ESN studies in 2010 to over 21% by 2020. CSR on ESN use significantly emphasises well-being, employee outcomes, and knowledge management, utilising a balanced methodological approach and leveraging prominent theoretical frameworks like AT, BT, and SCT.

These insights underscore the importance of incorporating CSR perspectives to comprehensively understand ESNs, ensuring a balance between practical efficiency and ethical considerations.

4.5.1. Summary

This chapter categorised ESN research into critical and administrative approaches, quantifying their distribution and trends over time to understand its evolution. The analysis examines shifts in methodologies, theoretical frameworks, and thematic areas, highlighting the growing importance of socio-technical and ethical considerations.

Data from 2010, 2015, and 2020 are analysed separately and comparatively, enhancing repeatability, and avoiding temporal bias. This approach establishes trends over time and notes the overall growth in ESN research, from 19 articles in 2010 to 48 in 2015 and 108 in 2020, underscoring the increasing research volume and the distribution between CSR and AR perspectives.

5. Discussion and Conclusion

5.1. Discussion

5.1.1. Summary

The findings of this study underscore the importance of recognising how inward-facing enterprise social networks (ESNs) can impact interpersonal relationships and employee well-being. The study emphasises the need for critical social research (CSR) perspectives to understand the potential dehumanising effects of digital media, as noted by theorists such as Davis (2004), and Wolfe (2010). The background of the problem highlights growing concerns about the decline in CSR, supported by evidence of CSR-oriented programs being shut down or marginalised (Harvey, 2022; Duckett et al., 2013).

This study's research questions focus on determining the percentage of CSR on ESN use, dominant methodologies, prevalent theories, main thematic areas, the explicit use of theory, and trends in incorporating CSR perspectives. The study's findings reveal a noticeable trend in ESN research, highlighting key insights into the balance between administrative research (AR) and CSR. Of the 175 articles analysed, 78.86% were identified as AR, while 21.14% were classified as CSR.

The analysis of the increasing trend in CSR within the social sciences reveals a complex landscape. Although CSR rose from 5.56% of articles in 2010 to 25% in 2015 and settled at 21.43% in 2020, this type of scholarship is not being edged out but has shown growth. This trend aligns with Fuchs' observation that AR, which focuses on efficiency and effectiveness, continues to dominate (2017b); however, CSR's consistent presence and growth indicate its enduring relevance and significance in the field, challenging the notion of its decline.

Methodologically, this study underscores the dominance of quantitative methods, which account for 49.71% of ESN research, compared to 37.71% for qualitative methods and 5.71% for mixed methods. While Fuchs (2017b) associates quantitative research with the prevalence of AR studies and suggests a need for more theoretically based CSR, the data suggests otherwise. Substantial qualitative research exists within the field, and an increase in quantitative research does not necessarily correlate with a reduction in CSR.

The findings of this study challenge the strict methodological divide between AR and CSR, suggesting that quantitative and qualitative methods are employed across different research

paradigms. Interestingly, there has been a noted shift from qualitative to quantitative methods over time, even within CSR, where empirical approaches have become more common.

In 2010, CSR was scarce, with only a single article out of 19 representing roughly 5.56% of that year's publications; however, by 2015, the proportion of CSR rose significantly to 25%, suggesting a growing recognition of CSR perspectives. This interest slightly decreased to 21.43% in 2020, yet the overall trend indicates a stabilising presence of CSR in ESN studies and reflects a maturing field where CSR approaches are increasingly acknowledged as essential for a holistic understanding of ESNs.

The temporal analysis illustrates a dynamic shift in ESN research over the years. The presence of theory in ESN research increased significantly from 22.22% of the articles in 2010 to 66.66% in 2015 and 68.51% in 2020; the most frequently cited theories were social capital theory (SCT), affordances theory (AT) and technological acceptance theory (TAT), with SCT being particularly dominant in AR. In CSR, AT, and Boundary Theory (BT) were more prevalent, focusing on the capabilities and constraints of ESNs and delineating work-life boundaries. This theoretical diversity underscores the maturing discourse within ESN research, with CSR perspectives providing essential insights into socio-technical and ethical dimensions.

Diversity indices provided additional insights into the theoretical landscape. The Shannon Index and Simpson Index reveal an increasing diversity in theoretical frameworks over time, indicating a broadening range of concepts and a more balanced distribution of theories. CSR showed moderate diversity (Shannon Index of 3.178, Simpson Index of 0.944), reflecting a focused exploration of specific socio-technical themes. At the same time, AR exhibited higher diversity (Shannon Index of 4.248, Simpson Index of 0.976), indicating a broader range of theoretical applications.

The thematic analysis highlights the divergence between CSR and AR by identifying several primary themes across all articles: employee outcomes & behaviours, knowledge management, usage & adoption, collaboration & community, and management & leadership.

CSR uniquely emphasises employee well-being, reflecting contemporary issues like the digitalisation of work and the impact of the COVID-19 pandemic.

This focus on well-being, which constituted 40.74% of CSR thematic content in 2020, underscores the importance of CSR in addressing human-centric challenges in the workplace.

The findings of this study align with its primary objectives: assessing the current state of CSR in ESN research and developing a framework to distinguish between CSR and AR (or other research paradigms). This study addresses a perceived decline of CSR in the social sciences by highlighting the underrepresentation and increasing importance of CSR perspectives over time. Through the thematic and methodological analysis, the evolution of ESN research is explored, emphasising the necessity of integrating CSR perspectives to ensure a balanced and ethical approach to understanding social media's (SM) impact in the workplace.

The necessity of CSR is underscored as it provides a counterbalance to AR's predominantly efficiency-driven focus, thereby fostering a more holistic and ethically sound comprehension of ESNs. This approach informs future research directions and advocates a more inclusive methodology considering practical and socio-ethical dimensions when studying ESNs. These findings address concerns about the marginalisation of critical scholarship, as Fuchs (2017b) highlighted. The evidence indicates a need for more balanced research incorporating CSR and AR perspectives.

The study recognises several assumptions, including the prevalence of AR and the importance of CSR in examining technology and its impact. Its limitations encompass potential biases from subjective judgments in categorisation, a limited number of relevant articles, and bias from single-researcher analysis. The scope of the study is confined to ESN research within specific criteria and is not generalisable to all contexts or populations. Despite these limitations, the analysis offers valuable insights into the balance between CSR and AR on ESN use, highlighting the need for more inclusive and diverse research approaches.

5.1.2. Interpretation

The findings from this study indicate that ESN research predominantly focuses on AR aspects, with 78.86% of the studies classified as AR and only 21.14% as CSR. This distribution reflects concerns raised by scholars like Fuchs (2017b), who have observed that CSR perspectives are often overlooked. However, there is a positive trend, as the proportion of CSR has increased substantially from 5.56% in 2010 to approximately 21.43% in 2020.

This change suggests a growing recognition of the importance of understanding the broader social and ethical impacts of ESNs, reinforcing the arguments of critical theorists who underline the necessity of examining power structures and the implications of digital labour.

Methodologically, there is a noticeable shift towards quantitative methods, commonly used in AR, to focus on measurable results and broad conclusions. In contrast, CSR employs qualitative and quantitative methods, providing a detailed and context-specific understanding.

This methodological diversity is essential for exploring complex issues highlighted by CSR, such as power dynamics and the interplay between work and life. This mixed-methods approach also captures the nuances of employee experiences and the socio-cultural context in which ESNs operate, providing a more holistic view of their impacts.

This study reveals that theories like SCT, AT, and BT are becoming more prominent in ESN studies. SCT examines the value of social networks, AT explores the potential actions enabled by technology, and BT investigates the boundaries between work and personal life. These theories help better understand power relations, work-life balance, and other CSR concerns.

Diversity indices provide further insights into the theoretical trends. The Shannon Index and Simpson Index show an increasing theoretical diversity from 2010 to 2020, indicating a more balanced distribution of theories over time. This diversity suggests a maturation of the field as it explores a broader range of theoretical perspectives, particularly within the AR domain. The higher diversity indices in AR (Shannon Index of 4.248, Simpson Index of 0.976) compared to CSR (Shannon Index of 3.178, Simpson Index of 0.944) highlight a broader base of theoretical applications in AR.

Incorporating insights from specific articles strengthens these interpretations and provides context to the findings. For instance, Nivedhitha & Sheik Mansoor's 2020 study on Enterprise social media (ESM) and cyber-slacking demonstrates how specific affordances of ESMs can enhance social bonding and reduce counterproductive behaviours. Their findings align with the broader analysis of ESN research, highlighting the interplay between AR and CSR perspectives (2020).

Treem et al. (2015) also examine how workers' perceptions of accountability influence their decisions to use organisational SM systems. This supports the interpretation that theories like AT significantly impact ESN adoption and usage patterns. Treem et al.'s study underscores the complexity of mediated communication in professional settings, emphasising themes such as visibility and the potential for misinterpretation, which are crucial in CSR (Treem et al., 2015). The emphasis on visibility also touches on issues of surveillance and control, which are pivotal in understanding the power dynamics within organisations.

Yang's (2020) research on subordinate-supervisor friendships mediated by SM platforms highlights the shifting boundaries between professional and personal lives – a core tenet of Boundary Theory (BT). Yang's study emphasises the social and ethical dimensions of technology use, reinforcing the importance of CSR perspectives in ESN research. These findings parallel concerns about digital burnout and psychological detachment from work, which CSR increasingly addresses as significant consequences of pervasive technology use.

Yang's article (2020) exemplifies CSR by addressing the broader social and ethical implications of SM use in the workplace. It underscores the need for formal regulations to prevent inappropriate behaviours and highlights the cultural intricacies of SM interactions. Such regulatory considerations resonate with broader debates about ethics in digital communication, suggesting a need for policies that balance organisational efficiency with employee well-being.

Findings from this study reveal that research on ESNs primarily concentrates on two main themes: the impact on employee outcomes & behaviours and knowledge management. Research in the first category often investigates how ESNs affect individual employees, focusing on well-being, interpersonal relationships, and their connections with the organisation. In the second category, studies delve into how ESNs affect organisational processes, particularly their role in enhancing information sharing and collaboration within the workplace.

In more recent CSR, emerging themes highlight a growing concern for employee well-being, addressing potential adverse effects of ESNs such as stress, privacy concerns, and difficulties maintaining a work-life balance. These issues resonate with earlier warnings about the adverse consequences of technology on personal well-being, underscoring the urgent need for strategies to mitigate these impacts.

This study's findings imply that the focus on employee outcomes and well-being results from a concern within the research community about the personal impacts of ESNs. This trend reflects a growing awareness and the necessity for organisational strategies to address and mitigate the negative consequences of SM use in the workplace.

Despite the growing presence of CSR, AR continues to dominate the field; however, CSR studies are essential as they address broader social, ethical, and humanistic issues. They point out that focusing solely on efficiency and productivity can overlook important aspects.

The research reflects a balanced use of theories and methodologies, indicating a maturing field that recognises the need for comprehensive insights. This balance is crucial as it allows for a more thorough understanding of ESN use, which is essential for implementing practices supporting organisational goals and employee welfare.

This study emphasises the importance of CSR for understanding the broader implications of ESN use. Identifying key themes and trends provides a roadmap for future research to expand on these CSR perspectives. Additionally, the comparison over time shows that the relevance and necessity of CSR perspectives are gaining recognition, even if their overall proportion remains smaller than that of AR.

This shift towards CSR is encouraging. It suggests that future research will increasingly prioritise the human and ethical dimensions of ESNs, leading to more balanced and equitable organisational practices.

This study also contributes methodologically by providing a clear framework for distinguishing CSR from other research in the form of a typology based on the work of Coule et al. (2022). The framework proposed can serve as a guideline for other researchers aiming to navigate the complex landscape of ESN studies and, more generally, IS studies, fostering a more inclusive and multi-dimensional exploration of the topics. This framework should help future researchers to categorise their work more effectively, aiding a greater exploration of the role and state of CSR in social research.

While AR still leads in ESN studies, CSR is gaining ground and awareness of the socio-technical and ethical implications of ESNs is increasing. Themes like well-being and employee outcomes in CSR highlight the importance of considering the human side of technology use in organisations. Integrating AR and CSR perspectives will be crucial for thoroughly understanding ESNs as the field develops. Future research should continue to explore these themes and employ diverse methods to address the complexities of ESN use. The increasing application of theoretical frameworks in these studies is a positive sign of the field's advancement towards more comprehensive and insightful research.

By continuously refining methodologies and expanding theoretical approaches, scholars can ensure that ESN research remains relevant and responsive to the evolving technological and social landscape.

5.1.3. Implications

The findings of this study hold significant implications for both academic research and practical application within organisations.

The increasing recognition of CSR on ESN use underscores its necessity to provide a comprehensive understanding of the socio-technical and ethical dimensions of ESN use. By highlighting the broader impacts of these networks, CSR addresses issues often neglected by AR perspectives, such as power dynamics, privacy concerns, and the implications for employee well-being.

This shift towards CSR suggests a growing appreciation for the complex interplay between technology, social structures, and individual agency within the workplace.

In practical terms, the insights from this study can inform organisational policies and practices that prioritise employee well-being alongside efficiency and productivity. By understanding the potential dehumanising effects of digital media, as highlighted by theorists like Davis (2004) and Wolfe (2010), organisations can implement strategies to mitigate these impacts.

For example, as BT emphasises, recognising the importance of work-life boundaries can lead to policies that support psychological detachment from work and reduce digital burnout. These practices enhance employee satisfaction and health and promote a more sustainable and ethical workplace culture.

The methodological insights from this study enhance academic discourse by showcasing the value of mixed methods approaches in ESN research. Researchers can explore phenomena more comprehensively by combining qualitative and quantitative methods, capturing broad trends and detailed, context-specific insights. This methodological diversity offers a deeper understanding of the multifaceted nature of ESNs and their impacts, resulting in richer and more insightful analyses. Additionally, the growing use of theoretical frameworks in ESN studies highlights the field's maturation and provides a robust foundation for future research.

The temporal analysis of ESN research trends reveals a gradual yet positive shift towards incorporating CSR perspectives, suggesting that the field is moving towards a more balanced approach. This trend is encouraging for CSR proponents, as it indicates a growing recognition of the need to examine the ethical and social implications of ESNs. By continuing to expand on these CSR perspectives, future research can ensure that ESN studies remain relevant and

responsive to the evolving technological landscape, ultimately contributing to more equitable and humane organisational practices.

Finally, this study's findings have implications for the broader field of social science research. By developing a framework to distinguish between CSR and non-CSR, this study provides a helpful tool for researchers across various disciplines. This framework can help ensure that CSR perspectives are recognised and that diverse methodological approaches are employed to address the complex issues of digital media and internet studies (IS). In this way, the study contributes to fostering a more inclusive and multi-dimensional academic discourse, promoting a holistic understanding of the impacts of technology on society.

The findings of this study underscore the importance of integrating CSR perspectives into ESN research and organisational practices. By addressing ethical and social dimensions alongside AR concerns, researchers and practitioners can develop a more balanced and comprehensive understanding of ESN use.

This approach enhances academic discourse and informs the creation of more equitable and sustainable organisational environments. As the field continues to evolve, it is important to maintain this dual focus, ensuring that the study of ESNs remains attuned to both practical and humanistic considerations.

5.1.4. Limitations

While this study provides valuable insights into the state of CSR and AR on ESNs, several limitations must be acknowledged.

One significant limitation is selecting specific years—2010, 2015, and 2020—as focal points for analysis. While this approach strategically captures temporal shifts, it potentially overlooks trends and developments in the intervening years. Including data from these intermediate years could offer a more granular and continuous view of the evolution of ESN research, capturing changes and emerging patterns that may not be evident with the current sampling.

Additionally, the categorisation of research into CSR and AR types involves a degree of subjectivity, which could introduce bias. While efforts were made to ensure consistency and objectivity through established criteria, the inherent interpretive nature of this process means that different researchers might classify some studies differently. This subjective judgment, though necessary for qualitative analysis, could affect the reliability of the findings.

Another limitation relates to the scope and representativeness of the reviewed articles. This study focuses on a specific set of academic databases and journals, which, although comprehensive, may not encompass all relevant ESN research. Articles published in less prominent or non-English language journals might have been excluded, which could skew the results and limit the generalisability of the findings. Moreover, using a single researcher for data collection and analysis raises the risk of inadvertent bias, affecting the study's objectivity.

The research also assumes that the identified trends in ESN studies indicate broader shifts in the field of IS. This assumption might not hold across different contexts or industries, limiting the applicability of the findings. Furthermore, the study's focus on peer-reviewed journal articles means that other forms of scholarly communication, such as conference articles, book chapters, or grey literature, were not included. These sources might provide additional insights and a more comprehensive understanding of the topic.

Finally, the limited number of studies available for specific years, particularly in the early stages of ESN research, restricts the depth of analysis for those periods. For example, the small sample size from 2010 makes it challenging to draw robust conclusions about the state of CSR at that time. Expanding the study to include a broader range of publication years and sources would help mitigate these limitations and provide a more detailed and accurate picture of the evolution of ESN research.

While this study offers significant contributions to understanding the balance between CSR and AR in ESN studies, its limitations highlight the need for further research. Future studies should address these gaps by incorporating a broader temporal scope, reducing subjectivity in categorisation, expanding the range of sources, and increasing sample size. These steps will enhance the comprehensiveness and reliability of the findings, offering more profound insights into the dynamics of ESN research.

5.1.5. Recommendations

Based on the findings and limitations identified in this study, several avenues for further research and action are recommended to deepen the understanding of ESN research and its implications. First, some recommendations are for furthering or improving the research conducted here.

Improving this study

Broader Temporal Scope

Extend the analysis to include intermediate years between 2010, 2015, and 2020. This broader temporal scope will provide a more continuous view of the evolution of ESN research, capturing subtle changes and emerging patterns that the current sampling may have missed.

Including these intermediate years can offer deeper insights into the trends and shifts that occur gradually over time.

Expanding Data Sources

Incorporate various academic and non-academic sources, including conference articles, book chapters, and grey literature. This expansion will help capture a more comprehensive picture of ESN research, ensuring that diverse perspectives and findings from less prominent or non-English-language journals are included.

Such an approach can mitigate potential biases from relying solely on peer-reviewed journal articles.

Reducing Subjectivity in Categorisation

Develop and employ more robust criteria and frameworks for categorising research into CSR and AR types, use multiple researchers to cross-validate classifications, and include inter-rater reliability checks to minimise subjectivity and bias. This approach will enhance the objectivity and reliability of the categorisation process, leading to more accurate and consistent results.

Increasing Sample Sizes

Ensure that more extensive and representative samples are used in the analysis, particularly for years with fewer studies available. This can be achieved by extending the search to additional databases and sources, thereby increasing the pool of relevant articles. A larger sample size will allow for more robust conclusions, especially in the early stages of ESN research, when data may be sparse.

For Researchers

Inclusive Methodological Approaches

Promote diverse methodological approaches, including mixed-methods research that combines qualitative and quantitative data. This diversity will provide a more comprehensive understanding of ESN research, capturing broad trends and detailing context-specific insights.

Encouraging methodological pluralism can also bridge the gap between CSR and AR, fostering a more detailed exploration of ESNs.

Theoretical Frameworks and Innovation

Encourage integrating broader theoretical frameworks beyond the prevalent ones like SCT, AT, and BT, including emerging theories from related fields such as communication studies, organisational behaviour, and psychology. Fostering theoretical innovation will enrich the understanding of ESNs and their impacts, addressing the complex socio-technical and ethical dimensions.

Focus on Multi-Disciplinary Collaboration

Advocate for collaborative research involving scholars from various disciplines such as IS, sociology, psychology, and organisational studies. Multi-disciplinary research can provide a well-rounded perspective on ESNs, incorporating diverse insights and expertise. This collaboration can lead to more holistic and integrative research outcomes.

For Practitioners

Translate research findings into actionable recommendations for organisations. Develop guidelines and best practices that organisations can implement to balance efficiency and employee well-being. This can include policies to support psychological detachment from work, measures to address privacy concerns and strategies to enhance employee engagement and satisfaction. Practical recommendations will ensure ESN research has tangible benefits for organisations and their employees.

Longitudinal Studies

Invest in longitudinal studies that track the long-term impacts of ESNs on employees and organisations. Such studies can provide deeper insights into how ESNs influence work dynamics, employee well-being, and organisational culture over time. Longitudinal research will help identify enduring trends and long-term consequences, informing more effective and sustainable organisational strategies.

Policy and Ethical Considerations

Emphasise the development of ethical guidelines and policies that address the socio-technical impacts of ESNs. This includes considerations for digital well-being, privacy, and equitable access to technology.

Researchers and policymakers should work together to ensure that the development and implementation of ESNs are guided by ethical principles that prioritise the well-being of all stakeholders.

Recommendation Summary

Addressing these recommendations will allow future research to build on the insights gained from this study, providing a more comprehensive, complex, and actionable understanding of ESNs. These steps will contribute to advancing the field of ESN research, ensuring that it remains relevant and responsive to the evolving technological and social landscape. Based on the findings and limitations identified in this study, several avenues for further research and action are recommended to deepen the understanding of ESN research and its implications.

5.2. Conclusion

This study systematically reviewed peer-reviewed journal articles on using ESNs within workplace settings, focusing on the field's critical social research (CSR) and administrative research (AR) dimensions. The primary aim was to fill gaps in understanding the balance between these perspectives and how they have evolved.

The findings confirm the predominance of AR in the field, with 78.86% of the studies classified as AR and only 21.14% as CSR. This underscores the dominance of efficiency-focused studies over CSR inquiries into social and ethical implications. However, the proportion of CSR has shown an upward trend, growing from 5.56% in 2010 to approximately 21.43% in 2020.

This shift suggests a growing recognition within the academic community of the importance of examining the broader social and ethical implications of ESNs.

Methodologically, quantitative research is predominant, comprising 49.71% of the studies, with qualitative methods at 37.71% and mixed methods at 5.71%. The data reveal that while quantitative methods are more common, substantial qualitative research indicates a relatively balanced methodological approach.

The study identified key theories frequently used in ESN research, such as social capital theory (SCT), affordances theory (AT), and boundary theory (BT). SCT, which examines the value of social networks in enhancing organisational outcomes, is particularly influential in AR. In contrast, CSR often employs AT and BT, exploring the socio-technical affordances of ESNs and the delineation of work-life boundaries, respectively.

Analysing the themes in the research highlighted primary focus areas, including employee outcomes & behaviours, knowledge management, usage & adoption, collaboration& community, and management & leadership. Emerging themes in CSR, particularly those focusing on employee well-being, underscore the importance of addressing humanistic and ethical concerns. This focus on well-being constituted 40.74% of CSR thematic content in 2020, mainly reflecting contemporary issues such as digital burnout, stress, and privacy concerns during the COVID-19 pandemic.

Over time, the increase in diversity indices indicates a broader and more balanced distribution of theoretical frameworks, suggesting a maturation of ESN research. Specifically, AR exhibits higher theoretical diversity compared to CSR. This diversity indicates a broader base of theoretical applications and suggests that while AR studies dominate, the field encompasses many theoretical perspectives. These findings emphasise the necessity of integrating CSR perspectives into ESN research to provide a holistic understanding of ESNs' impact on organisations and employees.

While AR remains dominant, the increasing presence of CSR underscores a growing awareness of the broader social and ethical implications. The insights from this study can inform organisational policies and practices, promoting employee well-being, ethical considerations, and efficiency and productivity goals.

Future research should expand the temporal scope beyond select years to capture continuous trends and developments in ESN studies. Additionally, diversifying sources to include non-English journals, conference articles, and grey literature will enhance representativeness and comprehensiveness. Finally, employing a team of researchers can minimise subjectivity in categorising CSR versus AR, ensuring balanced interpretations.

This study accentuates the importance of a dual approach in ESN research, where both AR and CSR perspectives are acknowledged and integrated. Such an approach ensures that ESNs' benefits in terms of efficiency and productivity are balanced with a deep consideration of their social, ethical, and human-centred implications, fostering a more sustainable and equitable digital work environment.

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Appendix: A

Theories

Affordances Theory (AT)

The affordances theory, introduced by James Gibson (1977), focuses on user perceptions of actions enabled by objects. Vaast and Kaganer (2013) apply this to social media policies, showing differing perceived opportunities for action across environments. Treem and Leonardi (2012) identified four critical affordances of social media: visibility, persistence, editability, and association, which enhance transparency, permanence, collaborative editing, and relational aspects of online interactions. Organisations must understand these affordances and manage social media use through policies.

Boundary Theory (BT)

Boundary Theory helps us understand how the digital workplace impacts personal life, especially with ESNs. It suggests that people create mental, physical, temporal, and psychological boundaries to separate and control different life areas, like work and personal spaces. These boundaries aid in managing responsibilities and roles. Telework and ESNs blur these lines, creating new challenges (Ashforth et al., 2000).

Boundary Theory offers a framework for managing work-life boundaries in the digital age. Applying it to ESN research reveals how individuals navigate the fusion of their professional and personal lives. Further research is needed to inform technology design and workplace policies that support effective boundary management, enhancing well-being and productivity in telework settings (2000).

Grounded Theory (GT)

Grounded Theory (GT) generates theory from empirical data, providing a framework for building conceptual models rooted in observational realities. Understanding emergent behaviours in business contexts is advantageous in ESN research (Bryant et al., 2007).

Unlike deductive research, GT begins with data collection without preconceived notions, allowing patterns and theory to emerge organically. Its iterative nature involves collecting data, analysing it, and then continually gathering more data to refine understanding (2007).

GT is adaptable and focuses on dynamic processes, allowing researchers to capture changes and develop theories mapping social processes. This offers insights into social dynamics and practical implications for increasingly interconnected digital ecosystems (2007).

Social Capital Theory (SCT)

Pierre Bourdieu (2004) defines social capital as the aggregate of the actual or potential resources linked to the possession of a durable network of institutionalised relationships of mutual acquaintance and recognition, essentially equating it to membership in a group. This notion underscores the critical role that social relationships play in accessing valuable resources. Building on this, Machale & Martin (2015) explore the evolutionary benefits of social capital, positing that social relationships facilitate the development and accumulation of human capital, thereby supporting educational attainment and skill development.

Research on social capital focuses on how our social networks impact our abilities and achievements, using methodologies such as surveys and interviews to understand its effects in different contexts. This impact can vary based on cultural norms and the social environment. Measuring social capital involves assessing the extent and quality of an individual's social connections and their effects on work-related factors such as knowledge sharing and career progression within the organisation. The effect of social capital may vary significantly across cultural settings, emphasising the need for a tailored approach to specific organisational and cultural contexts (Dubos & Cook 2017).

Technology Acceptance Model (TAM)

TAM's key concepts are perceived usefulness and perceived ease of use. Perceived usefulness is the belief that using a system will improve job performance, while perceived ease of use is the belief that using the system will be effortless. These concepts influence a user's intention and actual use of a system.

TAM's simplicity and adaptability make it a popular framework for studying technology acceptance. Its roots in the Theory of Reasoned Action (TRA) and focus on user perceptions have led to its widespread application across various technologies and organisational contexts (Taherdoost, 2018).

ESNs facilitate communication, collaboration, and information sharing within organisations. TAM helps understand why employees embrace or resist these platforms by focusing on perceived usefulness and ease of use (2018).

Hamed Taherdoost's literature review highlights TAM's significance in understanding user behaviour across diverse domains (2018). Its applicability to various technological innovations underscores its robustness and adaptability (2018).

For decision-makers and IT developers, understanding TAM's influence on technology use emphasises designing systems perceived as valuable and easy to use, driving higher adoption rates (2018). TAM's broad adoption in research signifies its foundational role in examining acceptance behaviours. It provides a reliable basis for exploring ESN use within enterprises and technology adoption beyond social networking platforms (2018).

Uses and Gratifications Theory (UGT)

Uses and Gratifications Theory (UGT) is a communication theory exploring how consumers actively seek out specific media to fulfil their needs and motivations. This theory posits that the satisfaction of these needs influences the level of gratification experienced by the audience. It aims to answer why individuals are attracted to specific media and what kind of satisfaction media provides (Mehrad & Tajer, 2016).

UGT helps identify active and passive users based on cognitive-cultural patterns, improving automatic personalised interactive information retrieval systems. By integrating UGT with knowledge and information science, researchers can better grasp users' information-seeking behaviours and strengthen information systems' design and functionality based on user needs and motivations (Mehrad & Tajer, 2016). This application of UGT can lead to a more user-centric and practical knowledge and information science framework (2016).

UGT includes several components: an active audience, needs and motivations, specific gratifications sought and obtained, and the effects of media use. With communication technologies like social media and interactive information retrieval systems offering diverse media options, UGT has become increasingly relevant in the 21st century (Mehrad & Tajer, 2016).