Social media misinformation and fake news: a consumer behaviour perspective

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Declaration of Originality

This thesis is submitted in fulfilment of the requirements for the award of the degree of Doctor of Philosophy of the University of Portsmouth. Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this thesis are the work of the named candidate and have not been submitted for any other academic award.

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I cannot even imagine I am writing the acknowledgements of my PhD thesis. Looking back at where I started from, I have come a long way to be here. The journey has been tiring, exciting, and at some points even discouraging. But I have never been alone in this.

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Being a first-gen scholar means that your family does not always understand what you do for living. Nevertheless, my family has always been supportive of my dreams. It costed you all a lot, I know this, but I hope that with this achievement I have made you proud of me. Thank you!

But more, much more than this… I did it My Way!

Abstract

Over the last years, the rapid spreading of fake news and general misinformation through social media platforms has posed serious threats to individuals, organizations and society at large. Despite the prevalence of misinformation, the marketing and consumer behaviour literature has long overlooked the study of this phenomenon, leaving the knowledge on the topic scattered across different disciplines and perspectives.

Addressing this gap within the literature, this thesis aims at reconciling the interdisciplinary literature within the area of misinformation, in addition to proposing original and specific research directions for marketing and consumer behaviour scholars. Through the utilisation of different methods and applying interdisciplinary theories (Dual Process Theories, Social Influence Theory and Legitimacy Theory), this dissertation provides an in-depth analysis of the concepts of fake news and social media misinformation. In doing so, the research identifies the legitimization processes of misinformation on social media that fuel users' acceptance and willingness to disseminate said contents.

The contributions of the dissertation are as follows first, by performing a systematic review of the interdisciplinary literature on the topic, this research revises the definition of the term "fake news", differentiating it by other related concepts. Secondly, this research delineates the legitimization process of misinformation and tests the impact of different legitimacy cues on social media sharing behaviour. The implications of this research are relevant both for managers and policy makers. From the managerial point of view, these findings help social media platforms in their lifelong battle against misinformation, suggesting that different information presentation formats on social media are conducive to less willingness to share misinformation. From the policy point of view, this research shows how policy makers could use strategies (e.g.

ensuring credentialism) to de-legitimise misinformation and limit its spreading. The papers included in this thesis will help towards building a better understanding of the dynamics of misinformation in the context of social media, and evaluating its impact on the consumer and organizations.

Declaration of authorship

Table 1 provides details of the four academic journal articles included in this thesis, their authorship and publication status. Their quality in terms of originality, significance and rigour is evidenced by their publication in internationally-recognised peer-reviewed journals.

Table 1: List of papers, publication status, and authorship

Title	Publication	Status	Authorship
Paper 1	Di Domenico, G., Sit, J., Ishizaka, A., & Nunan, D. (2021). Fake news, social media and marketing: A systematic review. *Journal of Business Research, 124*, 329-341.	Published 2021 AJG 3*	G. Di Domenico J. Sit A. Ishizaka D. Nunan
Paper 2	Di Domenico, G., & Visentin, M. (2020). Fake news or true lies? Reflections about problematic contents in marketing. *International Journal of Market Research*, *62*(4), 409-417.	Published 2020 AJG 2*	G. Di Domenico M. Visentin
Paper 3	Di Domenico, G., Nunan, D., Sit, J., & Pitardi, V. (2021). Free but fake speech: When giving primacy to the source decreases misinformation sharing on social media. *Psychology & Marketing*.	Published 2021 AJG 3*	G. Di Domenico D. Nunan J. Sit V. Pitardi
Paper 4	Di Domenico G., Nunan, D. & Pitardi, V. (2022). Marketplaces of misinformation: A study of how vaccine misinformation is legitimized on social media. *Journal of Public Policy & Marketing*	Under Review (Third Round) AJG 3*	G. Di Domenico D. Nunan V. Pitardi

Notes: AJG = Academic Journal Guide

I hereby certify that the authorship, as stated above, is an accurate record of the work undertaken by each author, in respect of the papers contained herein.

Giandomenico Di Domenico

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List of key terms

Misinformation	incorrect or misleading information, shared without the intent of deceiving
Disinformation	incorrect or misleading information which is deliberately false, created and shared with the intent of deceiving
Fake News	a deliberate intent to deceive by manipulating individuals' cognitive biases and causing public harm for financial or ideological profit, exploiting the possibility of reaching a vast audience through social media
Conspiracy Theory	a belief that an event or a situation is the result of secret plans made by powerful people
Deepfake	a video of a person in which their face or body has been digitally altered so that they appear to be someone else, typically used maliciously or to spread false information
Satire	the use of humour, irony, exaggeration, or false information to expose and criticize people's stupidity or vices, particularly in the context of contemporary politics and other topical issues.

1. Introduction

Policy makers and managers are increasingly trying to find actionable solutions to curb the spreading of fake news and general misinformation through social media platforms. However, the limited understanding of the phenomenon and its characteristics, the dynamics of its spreading in digital environments and its consequences for the society hinder the effectiveness of the proposed solutions. In light of this, the papers included in this dissertation explore the fake news and general misinformation phenomena from a marketing and consumer behaviour point of view. I present four papers which identify the main characteristics of fake news, provide a definition for this phenomenon and explore the legitimization processes that lead to social media sharing behaviours. This accompanying narrative firstly provides background and context for this dissertation and introduces the overarching research objectives guiding the research studies. It continues by highlighting the contribution of this work and the research approach adopted to carry on the papers. The chapters that follow are dedicated to the papers included in this dissertation. Before each of the papers, I provide a brief foreword to give some context for the reader, and to highlight how each subsequent paper builds on the last. Finally, a concluding discussion relates these studies to the overarching research objectives.

1.1 Motivations and research objectives

Social media have revolutionised the way individuals communicate and get in touch with each other. Whilst the idea behind the creation of these digital spaces was to allow a wider and more immediate connection between people, these platforms have become important channels for the production and exchange of information and news (Tandoc, Lim & Ling, 2018). Unfortunately, these developments have fuelled a massive spreading of misinformation, widely described as "fake news", through these platforms (Allcott & Gentzkow, 2017). Lying is part of the human nature

and is as old as the humankind (Burkhardt, 2017). However, the increasing connectivity of digital environments has allowed a wider reach of fake news, negatively impacting consumers, organizations and the society at large (Pennycook & Rand, 2019).

The phenomenon of fake news gained relevance after 2016, when massive social media misinformation campaigns impacted the outcome of two important political events, namely the US Presidential elections and the Brexit referendum (Allcott & Gentzkow, 2017). Nevertheless, over the last years we have assisted to a surge in the proliferation of fake news in other contexts, targeting brands (Berthon & Pitt, 2018), financial markets (Binham, 2019) and the pharmaceutical industry (Sarkees, Fitzgerald, & Lamberton, 2020). In this regard, the spreading of misinformation regarding COVID-19, its origins and cures represents the latest example of how misinformation can impact our lives, slowing down the progress made in fighting the pandemic (Johnson et al., 2020).

Notwithstanding the relevance of the phenomenon, a complete understanding of social media misinformation, how its spreads, and how it can impact consumers still constitutes a major challenge. The first issue concerns the terminology adopted in previous studies. The term "fake news" has turned to be as an umbrella term encompassing various phenomenon of false information, such as *misinformation*, *disinformation*, *conspiracy theories* and also *satire.* Providing a clearer identification and definition of the phenomenon in the marketing context is thus needed to advance our knowledge on the topic and understand better the impact on consumers. Secondly, most of the research on the phenomenon comes from the computer science (Jang et al., 2018), politics (Alcott & Gentzkow, 2017), psychology (Pennycook, Cannon & Rand, 2018), and information management fields (Kim & Dennis, 2019). The marketing and consumer behaviour literature has long overlooked the importance of the phenomenon for consumers and brands, with

very few exceptions (e.g. Visentin, Pizzi & Pichierri, 2019; Talwar et al., 2020; Borges & Gambarato, 2019). The importance of the study of misinformation in the marketing context lies in understanding how misinformation may tarnish the relationship between companies and their customers and impact how people make choices. Various forms of misinformation can directly or indirectly affect consumers. Among the direct forms of misinformation, we find fake reviews (Wu et al., 2020) and fake news (Allcott & Gentzkow, 2017) targeting companies or products. Fake reviews, when spotted, negatively impact consumers' perceptions of risk relative to a specific product, which ultimately affect purchase behaviour (Wu et al., 2019). At the same time, entirely fabricated news might create public online backlash and stimulate boycotting behaviours (Obada, 2019). At a more indirect level, being exposed to misinformation might activate a mistrust mindset that lowers consumers' evaluation of offerings (Kwon & Barone, 2020). Thirdly, most of the literature on the determinants of misinformation sharing on social media has focussed on individuals' psychological traits and cognitive biases (e.g. Bronstein et al., 2019; Pennycook et al., 2020), failing to understand the legitimization processes underlying individuals' acceptance of misinformation. Understanding how misinformation gets legitimized would help understand better why individuals believe in misinformation and share it in digital environment, thus providing more meaningful and actionable directions for policy interventions to mitigate its spreading.

This research focuses on the above-mentioned gap in the literature of social media misinformation, bridging different perspectives to provide a more thorough understanding of the phenomenon from the consumer behaviour perspective. In particular, this research focuses on providing a definition of "fake news", together with a theoretical framework acknowledging its antecedents, dissemination process and consequences in the marketing realm. Furthermore, this research intends to unveil different legitimization processes of misinformation. Drawing from legitimacy

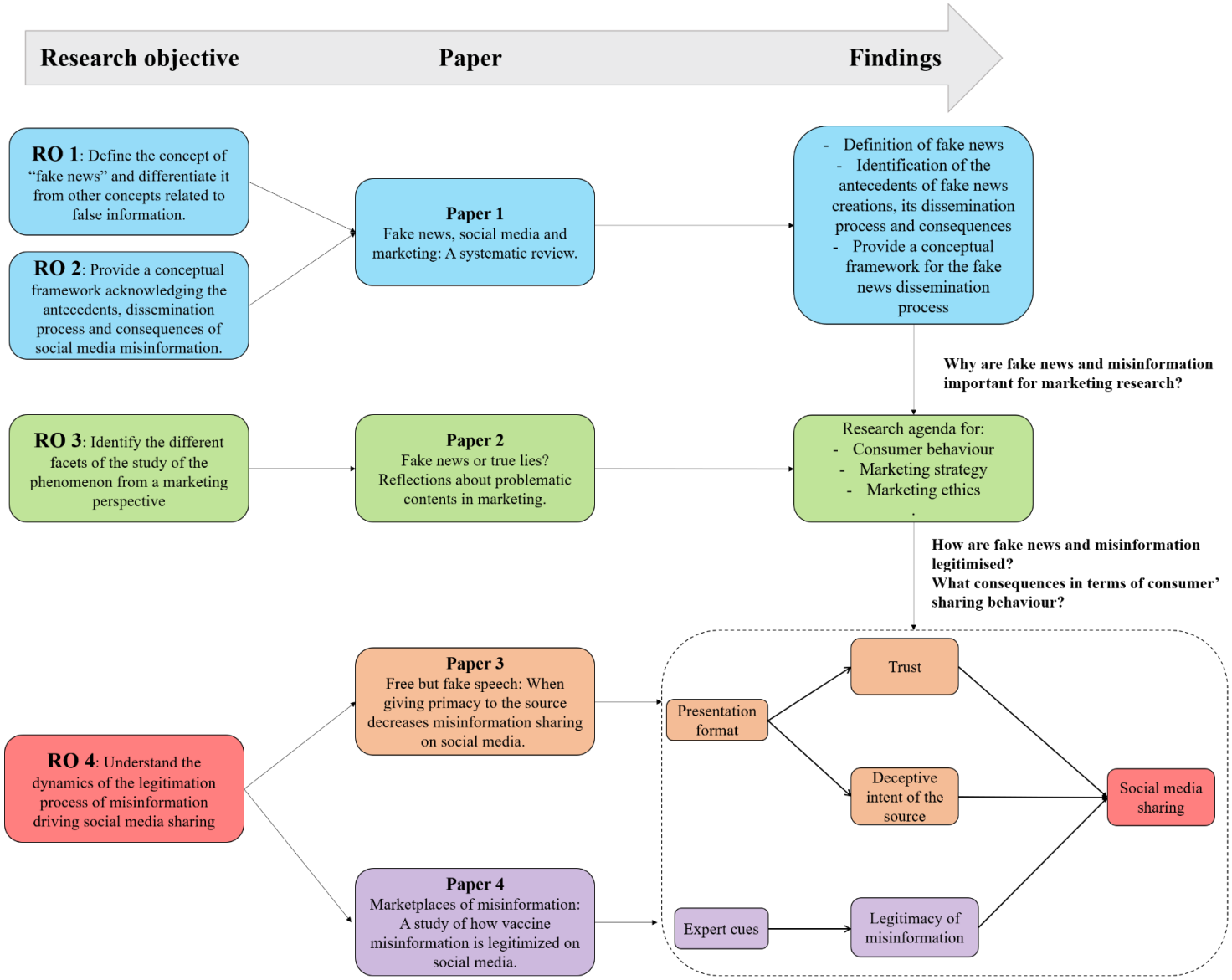
theory (Meyer & Scott, 1983; Suchman, 1995), consumers attribute different levels of cultural support to organizations and the products/services they provide, thus justifying their presence on the market (Deephouse et al., 2017). We adopt this definition of legitimacy and consider the legitimacy of misinformation, and the likelihood of sharing this information, as the cultural support available to the ideas underlying it. In doing this, the current research adopts a consumer behaviour perspective and sheds light on the dynamics contributing to misinformation sharing, providing actionable insights to social media platforms and policy makers to curb its spreading in digital environments.

In particular, this research has the following objectives:

1. Define the concept of "fake news" in the context of marketing and consumer behaviour and differentiate it from other concepts related to false information.
2. Provide a conceptual framework acknowledging the antecedents, dissemination process and consequences of social media misinformation
3. Identify the different facets of the study of social media misinformation from a marketing perspective
4. Understand the dynamics of the legitimation process of misinformation driving social media sharing

To address these aims, this research undertakes four studies. The first one is a systematic literature review on fake news and social media. The second article identifies the avenues for marketing research on the topic. The last two studies are empirical, conducted in a social media context, analysing the drivers of misinformation sharing. Figure 1.1 illustrates the research model.

***Figure 1.1**: Research Model and linkages between papers*



1.2 Summary of papers and linkages with research objectives

Paper 1 and its contribution to Research objectives 1 and 2

Paper 1 is an interdisciplinary systematic literature review of the relevant literature on fake news, misinformation and social media. The final number of articles included in the review consisted of 117 articles: 105 published journal articles, 2 conference papers, 8 newspapers/online articles and 2 reports. Through a critical evaluation and synthesis of the literature, the review identifies five themes that explain the fake news phenomenon: the dissemination process, spreading channel features, outcomes, fabricated legitimacy and attitudes. Moreover, the review identifies and summarises the previous definitions of fake news, differentiating it from other concepts. Finally, the review proposes a theoretical framework that highlights themes' relationships.

Paper 2 and its contribution to Research Objective 3

Having defined the concept of fake news, the purpose of *Paper 2* is to trod a new path in the marketing and consumer behaviour literatures in the analysis of fake news and broader misinformation. The Research Note aimed to provide a research agenda for marketing by analysing the previous literature and identifying relevant insights suggested by different disciplines. The Study informs scholars researching misinformation within the consumer behaviour, marketing strategy and marketing ethics disciplines.

Paper 3 and 4 and their contribution to Research Objective 4

Paper 3 is the first of the two empirical studies aiming at providing a more refined evaluation of the legitimization processes driving misinformation sharing on social media. In particular, this paper investigates whether different formats of information presentation on Facebook influence users' sharing behaviour. Two experimental studies show that when fake news is presented in a

source - primacy format (i.e. presenting the source of the information before the headline), users are less likely to share the post because of reduced trust in the message and increased perceptions of deceptive intent. Additionally, the second experimental study tests the moderating effect of the relationship between the sharer and the receiver of information. In particular, results show the effect of giving primacy to the source on trust and perceptions of deceptive intent persists only when the person sharing the fake news has a weak interpersonal relationship with the receiver.

Finally, *Paper 4* investigates the legitimization process of a particular and perhaps the most harmful type of misinformation, namely vaccine misinformation. The paper adopts a particular perspective, exploring the processes through which vaccine misinformation originating from online marketplaces, is legitimized and spread. Specifically, across one content analysis and two experimental studies, the study investigates the role of highly legitimized 'influencer' (i.e. medical professionals with considerable followers on social media) content in spreading vaccine misinformation. By analyzing a dataset of social media posts and the websites where this content originates, the paper identifies the legitimation processes that normalize and allow a wide spreading of discussions around vaccine hesitancy. Particularly, the content analysis identifies different levels of legitimacy and their interaction. Results from a first experimental study show that expert cues increase perceived legitimacy of misinformation, particularly for individuals who have generally positive attitudes toward vaccines. The second experimental study demonstrates the role of expert legitimacy in driving consumers' sharing behavior on social media.

2. Contributions

2.1 Theoretical contributions

This dissertation intends to contribute to the marketing and consumer behaviour literatures surrounding fake news and general misinformation. In particular, the present research advances our theoretical knowledge in several ways.

Firstly, although the literature on this topic is growing steadily, it has remained scattered across different disciplines and perspectives. This dissertation includes *Paper 1,* which represents the first attempt to systematically review the interdisciplinary literature on the topic. It sheds light on the different facets of social media misinformation and revises the definition of the fake news phenomenon in the marketing context. Secondly, to the best of our knowledge, *Paper 1* represents first attempt to reconcile the academic knowledge on fake news and misinformation. It delineates the antecedents, the characteristics of the dissemination process and the outcomes of fake news and misinformation within the marketing realm, namely on consumers and brands. An important contribution of this research lies in the proposed theoretical framework, summarizing the findings obtained.

Thirdly, whilst misinformation has been mainly studied in different fields, marketing scholars have long overlooked the importance of the phenomenon and its implications for consumers and brands. *Paper 2* represents an attempt to integrate the interdisciplinary knowledge on misinformation into a finer-grained marketing perspective.

Finally, this dissertation features two papers that empirically test the dynamics of the identified dissemination process of fake news and general misinformation. In particular, *Paper 3* adopts Dual

Process and Social Influence theories as theoretical lens to understand how individuals process information on social media and the influence of the user who shared such information. *Paper 3* add to the literature of misinformation by finding that two mechanisms, namely increased trust in the message and decreased perceptions of the deceptive intent of the source, legitimise misinformation when primacy is given to the headline (rather than the source). Alongside this, *Paper 4* applies Legitimacy Theory to investigate how misinformation is spread on social media. While Legitimacy Theory has been applied mainly in organizational contexts, this dissertation approaches the spreading of misinformation from a legitimacy perspective, defining the legitimacy of misinformation as the level of cultural support available to the ideas underlying it. *Paper 4* extends the Legitimacy theory to the health misinformation context, by identifying different levels of legitimacy of misinformation, and uncovering the role of two levels of legitimacy (i.e. Expert and Algorithmic legitimacy) in fuelling the spreading of misinformation on social media. Adopting this approach has not only allowed for a richer understanding of the motivations behind misinformation spreading.

2.2 Managerial and Policy implications

This dissertation thus provides interesting insights for both managers and policy makers. From the managerial point of view, the findings of this research inform managers about the possible consequences of social media misinformation on their brands and warns them about formulating the best strategies to overcome a misinformation crisis. In particular, this research provides actionable insights to social media platforms in their lifelong battle against misinformation. For example, the findings show that simply changing the way news is presented on social media (i.e., presenting source information before headline information) can enhance the capabilities of users

to detect misleading sources, thus reducing the spread of misinformation through these channels. In this way, social media platforms could have proactive approach in limiting the spreading of misinformation without affecting users' freedom of expression.

On the other hand, this research has public policy implications, informing policy makers about the legitimization processes of misinformation in digital environments. Therefore, this dissertation provides several actionable suggestions to de-legitimise misinformation contents and limit the spreading of misinformation.

The four papers included in this dissertation contribute to the development of the marketing theory for fake news and misinformation, individually and collectively. The two theoretical frameworks proposed (i.e. Paper 1 and Paper 4), contribute to a more thorough understanding of the dynamics of the phenomenon, reconciling a literature that to date has been scattered across different disciplines and perspectives.

The proposed conceptualisations address these failures, thereby answering the calls for a more unified and coherent view of the phenomenon. Moreover, the contributions of this dissertation not only assist marketing researchers offering them a clear direction, but also inform policy makers and social media platforms to find more robust solutions to limit the spreading of misinformation.

The individual contributions of each paper included in this dissertation are shown in Table 2.

Table 2: *Individual contribution of papers*

Publication	Research question addressed	Research design	Contribution
Paper 1 Di Domenico, G., Sit, J., Ishizaka, A., & Nunan, D. (2021). **Fake news, social media and marketing: A systematic review**. *Journal of Business Research*, *124*, 329-341.	Define the concept of "fake news" and differentiate it from other concepts related to false information. Provide a conceptual framework acknowledging the antecedents, dissemination process and consequences of social media misinformation	Drawing on principles of systematic review (Denyer & Tranfield, 2009; Paul & Criado, 2020), we conducted a review of the fake news literature, identifying relevant themes for this phenomenon. The final number of articles included in the review consists of 117 articles: 105 published journal articles, 2 conference papers, 8 newspapers/online articles and 2 reports.	This paper represents the first systematic literature review on fake news. The review identified five themes. The theme of *fabricated legitimacy* was useful in solving the definitional problem of fake news. The themes of *attitudes, dissemination process and spreading channel features* concur to explain how fake news spread. Finally, the theme of *outcomes* clarifies the consequences of fake news on consumers and companies. The themes were integrated to create a theoretical framework for social media fake news, identifying the antecedents, dissemination process and outcomes of fake news.
Paper 2 Di Domenico, G., & Visentin, M. (2020). **Fake news or true lies? Reflections about problematic contents in marketing**. *International Journal of Market Research*, *62*(4), 409-417.	Identify the different facets of the study of the phenomenon from a marketing perspective	Literature review on *fake news* and *problematic information*, published between 2017 and 2020.The final sample consisted in 86 articles.	While fake news and misinformation are widely studied in the psychology, computer science and information management disciplines, the marketing and consumer behaviour approaches to the topic remain scant and scattered. This paper highlights the importance of studying the topic in marketing and proposes new research avenues in the disciplines of *consumer behaviour*, *marketing strategy* and *marketing ethics*.

Paper 3 Di Domenico, G., Nunan, D., Sit, J., & Pitardi, V. (2021). **Free but fake speech: When giving primacy to the source decreases misinformation sharing on social media**. *Psychology & Marketing*.	Understand the dynamics of the legitimation process of misinformation driving social media sharing	Two experimental studies (N=491) tested the effect of misinformation presentation format on willingness to share the news. The mediating role of trust and perceptions of the deceptive intent of the source was also confirmed. Finally, the studies tested moderating role of the tie strength between the sender and receiver of the news on the above-mentioned relationships. The stimuli were pre-tested (N=164).	Drawing from dual process and social influence theories, this paper extends previous research (Kim and Dennis, 2019) showing that the primacy effect of the source decreases sharing of misinformation only when the content is shared by a weak tie (vs strong tie). Second, the study adds to the fake news literature (Visentin et al., 2019) by identifying trust in the message and perceived deceptive intent as two psychological mechanisms that influence willingness to share misinformation on social media.
Paper 4 Di Domenico G., Nunan, D. & Pitardi, V. (2022). **Marketplaces of misinformation: A study of how vaccine misinformation is legitimized on social media.** Journal of Public Policy & Marketing, Under review.	Understand the dynamics of the legitimation process of misinformation driving social media sharing	The paper adopted a mixed-method approach. First, the study adopted a qualitative approach to examine how vaccine misinformation is legitimized within and between the online marketplace (Amazon) and social media (Facebook) platforms. The author analyzed a dataset of descriptions of 28 books containing vaccine misinformation on Amazon and 649 Facebook posts linking directly to these books on Amazon. Second, the paper adopted an experimental approach to empirically test the findings from the previous qualitative study. A total of 870 US consumers participated in this experimental	It is the first study to explore the origins of vaccine misinformation and to identify how such harmful health misinformation is legitimized. While legitimacy has mainly been adopted in organizational studies, this paper applies the Legitimacy Theory lens to misinformation, identifying two novel legitimacy dimensions (expert and algorithmic legitimacy) that shed light on the overall legitimation process of vaccine misinformation. Second, the paper adds to the literature on misinformation sharing by identifying the cues that confer legitimacy to vaccine misinformation and evaluating their impact on sharing behavior. Moreover, the author finds that the legitimizing effect of expert cues is stronger for individuals with low levels of vaccine hesitancy

		phase, including 3 pre-tests and 2 main experiments	and holds only for misinformation books (vs. factual books).

2.3 Research approach and methods

This research employs mixed-method approaches in the investigation of the fake news and misinformation phenomena. Mixed-method approaches are defined as *"the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study"* (Johnson & Owengbuzie, 2004; p. 17). The ultimate goal of applying mixed-method approaches to research is to achieve breadth and depth of understanding and corroboration (Johnson et al., 2007) by benefitting from the application of both qualitative and quantitative approaches. In particular, by using qualitative methods, the intention of the researcher is to explore the relevant variables of investigation. This approach is particularly valuable when the understanding of a particular phenomenon is limited, due, for example, to the recency of its advent (Hastings, 2011). On the other hand, quantitative methods allow a more fine-grained analysis of the phenomenon, testing relevant hypotheses formulated before the data collection and isolating the cause-effect relationships under investigation (Johnson et al., 2007).

Philosophically, mixed-method research relies on the pragmatic system (Johnson & Owengbuzie, 2004). This system tries to overcome the previous dualistic war between research philosophies, proposing an inclusive, pluralistic and complementary approach to research (Johnson et al., 2007) that gives the researcher flexibility and freedom in choosing the best suitable method from the ones at disposal (Davies et al., 2011).

As the phenomenon in this study is novel, it needed a deeper and broader investigation from a consumer behaviour perspective. In this sense, the application of mixed-methods not only has allowed to better understand the characteristics and dynamics of the phenomenon, but has also

allowed for richer theoretical, managerial and policy implications. The papers included in this dissertation adopt different methodologies, summarised here:

- Paper 1 adopts the means of a systematic literature review (Denyer & Tranfield, 2009). This study synthesizes the previous literature on the topic to provide a more meaningful definition of fake news and utilizes inductive reasoning to create a theoretical framework for the fake news and misinformation dissemination process.
- Paper 2 utilizes the literature review method to uncover new paths for fake news and misinformation research in the consumer behaviour, marketing strategy and marketing ethics disciplines.
- Paper 3 uses a deductive approach in the analysis of the legitimization processes of misinformation on social media. The relevant hypotheses were tested through a series of online experiments.
- Finally, Paper 4 uses a mixed-method itself to uncover and test the legitimization processes of vaccine misinformation across two different contexts, namely online marketplaces and social media platforms. In particular, a qualitative content analysis uncovers new legitimacy dimensions of vaccine misinformation. The impact of these dimensions on social media sharing behaviour is subsequently tested through a series of online experiments.

2.4 Ethical approval Protocol

Ethical approval was sought for all papers before undertaking the research. All obligations were met to align to the ethics protocols of the University of Portsmouth. In particular, Paper 3 received

favourable ethical opinion on 08/06/2020 (Reference: BAL/2020/22/DOMENICO). Paper 4 received favourable ethical opinion on 14/01/2021 (Reference: BAL/2020/50/DIDOMENICO).

3. Research Objectives 1 and 2: Define the concept of "fake news" and differentiate it from other concepts related to false information. Provide a conceptual framework acknowledging the antecedents, dissemination process and consequences of social media misinformation

The first paper in the dissertation addresses research objectives 1 and 2 and represents the starting point of the investigation of fake news and misinformation. This paper is a systematic review of the interdisciplinary literature surrounding fake news, adopting a marketing perspective. It seeks to reconcile the dispersed literature on this topic, synthesizing the different perspectives provided by various disciplines. The main contribution of this thesis is twofold. Firstly, it clearly outlines the phenomenon of fake news, differentiating it from other concepts related to misinformation. Secondly, it provides a conceptual framework for the fake news dissemination process on social media.

4. Paper 1: "Fake news, social media and marketing: a Systematic Review"

Giandomenico Di Domenico

Jason Sit

Alessio Ishizaka

Daniel Nunan

There is growing concern amongst policy makers, managers and academic researchers over the role that social media plays in spreading misinformation, widely described as 'Fake News'. However, research to date has mainly focussed on the implications of fake news for political communication and debate. There has been less focus on the implications of social media misinformation upon marketing and consumers. Given the key role of social media as a communication platform, there is a gap in our understanding of fake news through a consumer lens. We address this gap by conducting an interdisciplinary systematic review of the relevant literature. Through critical evaluation and synthesis of the literature, we identify five themes that explain the fake news phenomenon: the dissemination process, spreading channel features, outcomes, fabricated legitimacy and attitudes. Finally, we propose a theoretical framework that highlights themes' relationships and research propositions to guide future research in this area.

4.1 Introduction

Whilst social media platforms were originally created to enable connections between friends, these channels have become important routes for the production and exchange of information and news (Tandoc, Lim, & Ling, 2018). For example, in the US, Spain, Italy and the UK the majority of adults now receive their news from social media (Matsa & Shearer, 2018). Unfortunately, over the last years, we have seen a dramatic spread of misinformation through social media channels,

widely described as “fake news”. The creation and spreading of false information are not new phenomena. False stories have existed as long as humans have lived in groups (Burkhardt, 2017), developing alongside writing and communication systems. In today's digital media landscape, the term “fake news” has gained relevance following the 2016 US presidential elections (Allcott & Gentzkow, 2017). The meaning of this term has evolved from denoting satirical television shows (Hartley, 1996) to false information mimicking the style of conventional news and created to deliberately misinform (Waisbord, 2018). Scholars from different fields have proposed different, in some cases contrasting, definitions of fake news, creating a tension in the literature. As social media becomes an important channel for brands’ marketing activities (Tajvidi et al., 2018), including customer service and product development (Baccarella et al., 2018), the potential impact of fake news for companies and consumers could be severe (Berthon & Pitt, 2018). For consumers, fake news creates confusion and doubt about prior knowledge and experiences of brands (Rapp & Salovich, 2018). Fake news can instil misleading beliefs in people who will subsequently base their decision on those false beliefs (Lewandowsky et al., 2012), influencing their attitudes toward firms (Visentin, Pizzi, & Pichierri, 2019). For firms, fake news can tarnish corporate reputations (Berthon & Pitt, 2018), with large multinationals such as Pepsi and New Balance facing product boycotts because of online misinformation (Obadă, 2019). Moreover, fake news can pose a financial threat to firms (Binham, 2019).

This paper presents a systematic, and thematic, review of a body of literature that is highly fragmented (Lazer et al., 2018), with individual research streams in fields including political psychology (Allcott & Gentzkow, 2017), consumer psychology (Bronstein et al., 2019; Pennycook & Rand, 2019; Quattrociocchi, Scala, & Sunstein, 2016), information technology and management

(Colliander, 2019; Obadă, 2019; Thompson, Wang, & Daya, 2019). Whilst there is an emergent interest in fake news within consumer behaviour (Visentin, Pizzi, & Pichierri, 2019; Talwar et al., 2019; Borges-Tiago et al., 2020), this is limited in scope when compared to other disciplines. Many questions about fake news remain still unanswered by the scattered and fragmented previous literature (Di Domenico & Visentin, 2020). The study presented in this paper analyses different perspectives and identifies key themes from relevant literature. In doing so, we address the definitional issue of fake news, shedding light on the various theoretical interpretations of the phenomenon. Moreover, we synthesize the existing knowledge about the spreading patterns of fake news and its consequences on consumers and firms. Another contribution of this paper is the development of an integrative framework to inform a future research agenda about fake news.

The paper is structured as follows. First, we describe the method adopted for our review. Second, we review existing conceptualisations of fake news from various disciplines. Third, we present a systematic review of the literature on fake news, followed by a thematic analysis of the findings. Fourth, we present and describe the theoretical framework for the fake news process and develop research propositions identifying promising areas for contribution. Finally, we discuss the theoretical contributions and practical implications of this study, and provide directions to guide future research from a marketing perspective.

4.2 Method

Drawing on principles of systematic review (Denyer & Tranfield, 2009; Paul & Criado, 2020), we conducted a review of the fake news literature, identifying relevant themes for this phenomenon. These principles promote reproducibility and transparency in the review process (Snyder, 2019) and suggest five steps for producing a systematic review: Question formulation; Locating studies;

Study selection/evaluation; Analysis/synthesis and Reporting/using results (Denyer & Tranfield, 2009) which we adopted for this study.

4.2.1 Question formulation

The research scope, research questions and inclusion/exclusion criteria were established following an initial assessment of the literature and four research questions were formulated RQ1) How is fake news defined in the literature? RQ2) How does fake news spread? RQ3) What are the consequences of fake news for consumers? and RQ4) What are the consequences of fake news for companies?

4.2.2 Locating studies

Our search strategy focussed on searching online databases such as Ebsco Host, Springer, Emerald Insights, Scopus and Google Scholar in order to identify any relevant studies. We included studies from multiple fields such as business, psychology, politics, sociology, information management, education and journalism to have an extensive and critical understanding of the phenomenon. We also included conference proceedings as well as the grey literature. Following Adams, Smart & Huff (2017) inclusion of the grey literature stems from the necessity of getting more practical insights on the topic. This means that while academic literature provides valuable insights on the "what" and "why" of fake news, grey literature provides more practical insights about "how" the fake news phenomenon works. Grey literature was sourced by hand-searching, cross-referencing and including relevant articles from authoritative sources, identified in prior systematic reviews (Adams et al., 2016). We did not limit the search to specific years ranges. We considered articles published up to November 2019, when the bibliographic search was performed. Third, the keywords used were *"fake news", "fake news AND characteristics", "fake news AND consumer behaviour", "fake news AND consumer response".* Titles, keywords and abstracts were searched.

Our decision to limit the set of keywords around the word “fake news” was motivated by two specific reasons. First, over the last years, the concept of fake news has gained academic relevance, becoming a trending word for researchers. Second, from a preliminary evaluation of the literature, we found that the fake news phenomenon has evolved into a specific concept, with its own peculiarities differentiating it from concepts such as misinformation and disinformation. Hence, adding other keywords would have shifted the scope of this review away from the fake news concept.

4.2.3 Study selection & evaluation.

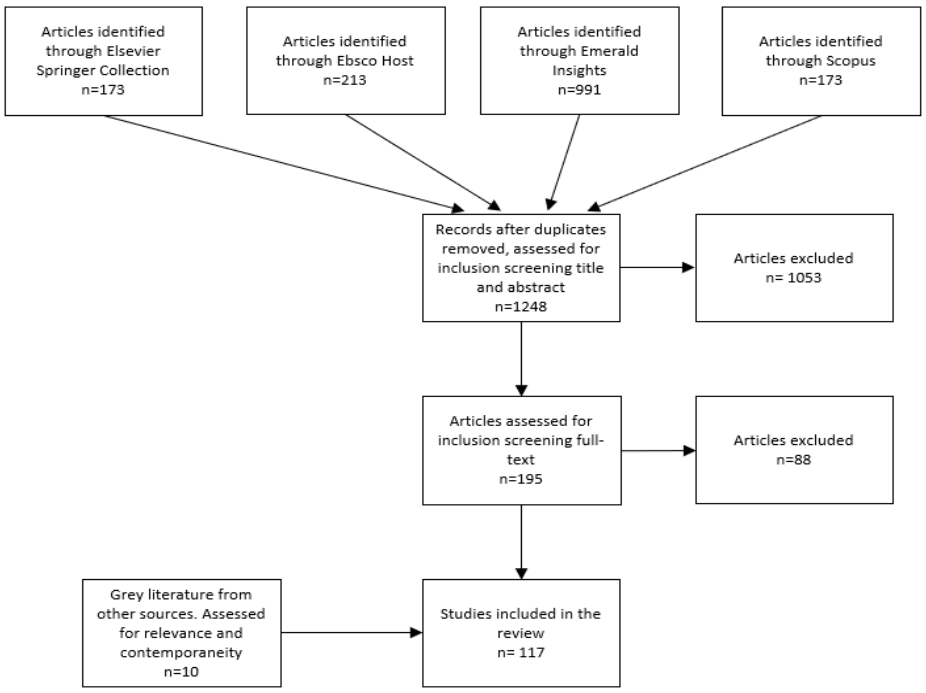
We excluded articles focusing on fake news detection methods and only articles written in English were included. This research strategy identified 1,550 articles. The database of literature was streamlined by eliminating overlapping materials and the remaining articles were screened through reading title and abstract. Finally, we screened the remaining articles following reading the full text. Grey literature was assessed on the basis of the contemporaneity of the articles, their relevance to the scope of this study and the authority of the source. The final number of articles included in our review consists of 117 articles: 105 published journal articles, 2 conference papers, 8 newspapers/online articles and 2 reports. Figure 2.4 provides an overview of the evaluation process of studies included in the review.

4.2.4 Analysis & synthesis

Following prior systematic reviews (Cinar, Trott & Simms, 2019; Vicente-Sáez & Martínez-Fuentes, 2018; Vrontis & Christofi, 2019) we manually developed a data extraction process to report the main characteristics of the papers (e.g. publication details, methodologies used, findings etc.). The authors then inductively coded the identified articles in themes, independently. This choice allowed us to have a broader and more complete understanding of the themes to identify.

The first coding process identified six themes, namely dissemination process, spreading channel features, attitudes, fabricated legitimacy, outcomes and strategy. Alternative labels were identified from common terms in the articles and discussed. The results of the first coding process were also discussed. In particular, the theme of strategy was found to overlap significantly with other identified themes, therefore the list of codes was refined before the second round of coding. It brought a more appropriate and bounded identification of themes, allocating the articles coded under the strategy theme to more appropriate destinations. Finally, each of the authors independently coded the same ten articles and calculated intercoder reliability, resulting in 85% agreement.

Figure 2.4*: Flow diagram for the literature review process*

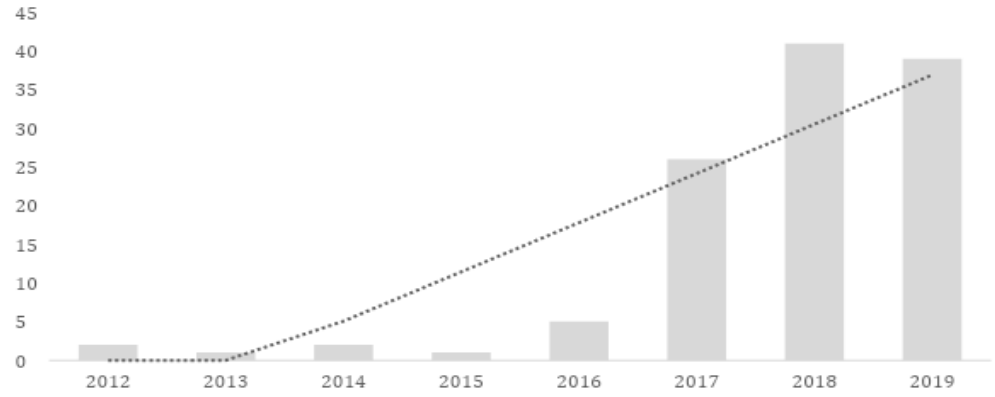


4.3General characteristics of the studies

4.3.1 Publication year

Figure 3.4 presents the frequency of published studies on the topic of fake news. The first two papers were published in 2012 (Polage, 2012; Lewandowsky et al., 2012). The number of publications increased rapidly after 2016 as fake news gained academic and public profile in 2016 for the role played in important political events such as the US Presidential elections and the Brexit referendum (Allcott & Getnzkow, 2017; Bastos & Mercea, 2019).

Figure 3.4: *Year of publication for articles included in the review*

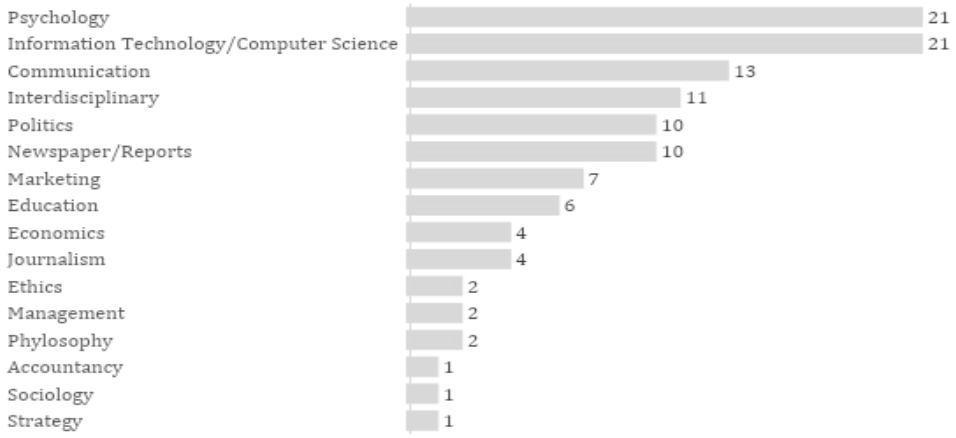


4.3.2 Disciplines

The articles reviewed come from a range of disciplines (Figure 4.4). The majority of them from the fields of psychology and information technology/computer science because of scholars'

interest in understanding other people's motivations of believing in and sharing fake news and the technological advances that enable its spread online.

Figure 4.4: *Number of studies from different disciplines*



The interest of political studies researchers in fake news was driven by recent political events, with researchers wanting to understand the impact that fake news has on voters and elections. Marketing studies, to date, represent a small part of the research base around fake news**.**

4.3.3 Themes identified

The identified themes closely resonate with the research questions of the present study. In particular, the theme of fabricated legitimacy was useful in solving the definitional problem of fake news (RQ1). The themes of attitudes, dissemination process and spreading channel features concur to explain how fake news spread (RQ2). Finally, the theme of outcomes addresses RQ3 and RQ4 by clarifying the consequences of fake news on consumers and companies. Table 3 provides an overview of the identified themes and their weighted citation (Christofi, Leonidou & Vrontis, 2017) in the set of articles.

Table 3: *Research themes of the reviewed literature*

Theme	Adjusted citations	Weight %*
Dissemination process	42.23	35.88
Channel	34.56	29.37
Outcome	16.16	13.70
Fabricated legitimacy	14.74	12.56
Attitudes	9.99	8.49

** Themes were weighted by adjusted citations, where adjustments were made for papers categorized in multiple themes. For example, if one paper was included in two themes, the adjusted citation would be 0,5 for each theme.*

The majority of articles analysed the dissemination process of fake news. Our findings indicate that researchers have focussed mostly on the spreading patterns of fake news, investigating the mechanisms enabled by fake news spreaders to achieve virality of contents. Such mechanisms could be either psychological and technological, with the majority of the studies analysing this theme come from psychology and computer sciences disciplines (Table 4). The second most studied theme is spreading channel features. This theme is closely related to the first one because it encompasses studies, mostly from the computer science discipline, that analysed the technological features of the channels through which fake news spreads. The third most studied theme is represented by the outcomes of fake news, where marketing research has focussed on evaluating the consequences of fake news spreading on consumers and firms.

Table 4: *Discipline contribution for each theme*

	dissemination process	spreading channel features	outcome	fabricated legitimacy	attitudes
psychology	21%	9%	18%	6%	54%
it/computer science	17%	18%	-	37%	26%
communication	13%	11%	18%	8%	3%
interdisciplinary	16%	9%	-	-	3%
politics	8%	8%	11%	4%	11%
newspaper/ reports	6%	14%	2%	25%	-
marketing	4%	8%	18%	-	-
education	4%	11%	-	-	3%
economics	-	1%	12%	4%	-
journalism	3%	3%	2%	7%	-
ethics	1%	3%	4%	-	-
management	3%	2%	-	8%	-
philosophy	2%	2%	9%	-	-
accountancy	-	-	7%	-	-
sociology	3%	-	-	-	-
strategy	-	-	-	-	-
Total	**100%**	**100%**	**100%**	**100%**	**100%**

The weight of each discipline contributing to a specific theme was calculated by the same method used in Table 2.

Next, we identified the theme of fabricated legitimacy, referring to the practice of fake news creators of fabricating legitimacy through a strategic presentation of the fake content, such as

website domains and headlines that recall legitimate sources of news. Finally, the least studied theme is represented by the attitudes of people who believe in fake news, relating to the psychological biases that lead individuals to believe in fake news. Examples of prominent studies for each theme are shown in Table 5.

Table 5: Examples of prominent papers in themes

Themes	citation	key findings
dissemination process	Grinberg, N. et al. (2019). Fake news on Twitter during the 2016 US presidential election. Science. [Empirical Paper]	This study estimated the extent to which people on Twitter shared and were exposed to content from fake news sources during the 2016 election season. Although 6% of people who shared URLs with political content shared content from fake news sources, the vast majority of fake news shares and exposures were attributable to tiny fractions of the population. Only 1% of individuals accounted for 80% of fake news source exposures, and 0.1% accounted for nearly 80% of fake news sources shared.
	Jang S. M. et al. (2018). A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis. Computers in Human Behavior. [Empirical Paper]	The findings revealed that root tweets about fake news were mostly generated by accounts from ordinary users, but they often included a link to non-credible news websites. Additionally, the authors found significant differences between real and fake news stories in terms of evolution patterns: tweets about real news showed wider breadth and shorter depth than tweets about fake news.
	Allcott, H. & Gentzkow, M. (2019) Trends in the diffusion of misinformation on social media Research and Politics. [Empirical Paper]	User interactions with false content rose steadily on both Facebook and Twitter through the end of 2016. Since then, however, interactions with false content have fallen sharply on Facebook while continuing to rise on Twitter.
spreading channel features	Bessi A et al. (2016) Users polarization on Facebook and YouTube. PloS One. [Empirical Paper]	Content drives the emergence of echo chambers on both platforms. Moreover, the authors show that the users' commenting patterns are accurate predictors for the formation of echo-chambers.
	Talwar, S. et al. (2019) Why do people share fake news? Associations between the dark side of social media use and fake news sharing behaviour. Journal of Retailing and Consumer Services.	The study results suggest that online trust, self-disclosure, fear of missing out, and social media fatigue are positively associated with the sharing fake news (intentionally). In contrast, social comparison has a negative association. The

	[Empirical Paper]	study findings also indicate that online trust has negative association with authenticating news before sharing
	Baccarella, C. V. et al. (2018) Social media? It's serious! Understanding the dark side of social media. European Management Journal. [Conceptual Paper]	The authors explain the dark side implications of social media in spreading fake news through seven building blocks: conversations, sharing, presence, relationships, reputations, groups and identity.
outcome	Visentin, M.; Pizzi, G. & Pichierri, M. (2019) Fake News, Real Problems for Brands: The Impact of Content Truthfulness and Source Credibility on consumers' Behavioral Intentions toward the Advertised Brands. Journal of Interactive Marketing. [Empirical Paper]	The results highlight that fake news can produce different consequences that spill over to the brand advertised alongside the fake news —encompassing not only brand trust and brand attitudes, but also behavioural consequences such as purchase intention, word-of-mouth referral and intention to visit the brand's store.
	Rapp, D. & Salovich, N. (2018) Can't We Just Disregard Fake News? The Consequences of Exposure to Inaccurate Information. Policy Insights from the Behavioral and Brain Sciences. [Conceptual Paper]	Exposure to inaccurate information creates at least three comprehension problems—confusion, doubt, and reliance—all of which are cause for concern given how frequently people encounter falsehoods, including fake news.
	Carrieri, V., Madio, L. & Principe, F. (2019) Vaccine hesitancy and (fake) news: Quasi-experimental evidence from Italy, Health economics. [Empirical Paper]	The authors found that larger accessibility to non-traditional media (via broader broadband coverage) led to a reduction in child immunization rates, in Italy. Interestingly, the negative and significant effect encompasses all vaccines and led immunization rates to reach below the critical threshold of 95%
fabricated legitimacy	Kim, A. & Dennis, A. (2019). Says who? The effects of presentation format and source rating on fake news in social media. MIS Quartely. [Empirical Paper]	The results of two studies show that presenting articles on social media in a source-primacy format (with the source of the article before the headline) as compared to Facebook's current headline-primacy format (with the headline before the source) makes users less likely to believe them. The source-primacy format nudges readers to be more skeptical of all articles, regardless of their source. Source reputation ratings influenced the believability of articles. When the sources were unknown, a low rating reduced readers' belief.

	Tandoc,Lim & Ling (2018). Defining "Fake News": A typology of scholarly definitions. Digital Journalism. [Review]	The authors identified different types of fake news with different features: news satire, news parody, fabrication, manipulation, advertising, and propaganda. These definitions are based on two dimensions: levels of facticity and deception.
	Jack, C. (2017). Lexicon of lies: terms for problematic information. Data & Society. [Report]	The author identifies and describes the different features of different types of misinformation on the Internet.
attitudes	Pennycook, G. & Rand, D. (2019) Who falls for fake news? The roles of bullshit receptivity, overclaiming, familiarity, and analytic thinking. Journal of Personality. [Empirical Paper]	The tendency to ascribe profundity to randomly generated sentences—pseudo-profound bullshit receptivity—correlates positively with perceptions of fake news accuracy, and negatively with the ability to differentiate between fake and real news (media truth discernment). Relatedly, individuals who overclaim their level of knowledge also judge fake news to be more accurate
	Bronstein, M. V. et al. (2019). Belief in Fake News is Associated with Delusionality, Dogmatism, Religious Fundamentalism, and Reduced Analytic Thinking. Journal of Applied Research in Memory and Cognition. [Empirical Paper]	Delusion-prone individuals displayed an increased belief in "fake news" headlines, which often feature implausible content. Mediation analyses suggest that analytic cognitive style may partially explain these individuals' increased willingness to believe fake news. Exploratory analyses showed that dogmatic individuals and religious fundamentalists were also more likely to believe false (but not true) news, and that these relationships may be fully explained by analytic cognitive style
	Britt, M. A. et al. (2019). A reasoned approach to dealing with fake news. Policy insights from the Behavioral and Brain Sciences. [Review]	The authors review belief and memory biases that play a significant role in shaping people's belief in fake news.

4.4 Themes discussion

In the following section, we discuss and critically analyse the findings for each of the themes identified in this review.

4.4.1 Towards a definition of fake news

The definitional problem of fake news can be attributed to several factors. First, the boundaries of the phenomenon are blurred. It is still unclear to what extent it could be conceived as similar to other forms of misleading contents, well studied in previous literature, such as misinformation, disinformation, propaganda, satire, hoax or conspiracy theories. Second, the term fake news is used interchangeably to describe 1) news that is crafted for gaining financial profit or discrediting others (Allcott & Gentzkow, 2017; Lazer et al., 2018), 2) news that has a factual basis but is distorted to fit a particular context (Tandoc, Lim & Ling, 2018), and 3) news that people just don't feel comfortable about or don't agree with (Lilleker, 2017). Finally, previous research has described fake news interchangeably as either a form of misinformation and disinformation, two distinct concepts. While both refer to false contents, misinformation refers to unintentionally created false information (Hernon, 1995) and disinformation acknowledges the creators' intent to deceive (Jack, 2017). So, finding an unambiguous definition of the phenomenon is difficult with some arguing that the terminology 'fake news' results in a "catch-all term with multiple definitions" (Lilleker, 2017; p.1). Table 6 provides an overview of the varying definitions of fake news from the literature. One of the first attempts to define fake news was made by Tandoc, Lim and Ling (2018). In their work, fake news is seen as a broad category of false information that contains different shades of purposes. A broad conceptualization of this phenomenon is also given

by Martens and colleagues (2018), and Zhang and Ghorbani (2020), conceptualizing fake news as encompassing all kinds of false stories or news, mainly distributed on the Internet, in order to mislead readers for financial or political gains.

Other scholars have provided a more precise conceptualization of fake news. Allcott and Gentzkow (2017) describe fake news as "*news articles that are intentionally and verifiably false, and could mislead readers" (p. 213)*. Hence, in this definition some "related features" of fake news such as unintentional reporting mistakes, rumors, conspiracy theories, satire and false statements by politicians are excluded (Allcott & Gentzkow, 2017).

Table 6: *Conceptualizations of fake news from the literature*

Author(s)	**Conceptualization**
Tandoc, Lim & Ling, 2018	*The authors identified six ways that previous studies have operationalized fake news: satire, parody, fabrication, manipulation, propaganda, and advertising*
Lazer et al., 2018	*News stories that were fabricated, but presented as if from legitimate sources, and promoted on social media to deceive the public for ideological and/or financial gain.*
Rini, 2017	*A fake news story is one that purports to describe events in the real world, typically by mimicking the conventions of traditional media reportage, yet is known by its creators to be significantly false, and is transmitted with the two goals of being widely re-transmitted and of deceiving at least some of its audience*
Allcott & Gentzkow, 2017	*Intentionally and verifiably wrong or false news produced for the purpose of earning money and/or promoting ideologies*
Özgöbek & Gulla, 2017	*Fake news articles are intentionally fabricated to be deceptive and can be proven that they are false*

Martens et al., 2018	*(fake news) as disinformation that includes all forms of false, inaccurate or misleading information designed, presented and promoted to intentionally cause public harm or for profit (e.g., commercial click-bait)*
Zhang & Ghorbani, 2020	*Fake news refers to all kinds of false stories or news that are mainly published and distributed on the Internet, in order to purposely mislead, befool or lure readers for financial, political or other gains*
Gelfert, 2018	*The fake news term should be reserved for cases of deliberate presentation of typically false or misleading claims as news, where these are misleading by design, (...) systemic features of the sources and channels by which fake news propagates and thereby manipulates (...) consumers' pre-existing cognitive biases and heuristics.*
Rochlin, 2017	*Fake news can be roughly defined as a knowingly false headline and story is written and published on a website that is designed to look like a real news site, and is spread via social media.*

Recently, a more refined characterization of fake news is given by Gelfert (2018), defining this phenomenon as a form of disinformation. Whilst this definition resonates with other authors mentioned above, Gelfert's (2018) concept of fake news is more precise in the sense that *"the fake news term should be reserved for cases of deliberate presentation of typically false or misleading claims as news, where these are misleading by design, (...) systemic features of the sources and channels by which fake news propagates and thereby manipulates (...) consumers' pre-existing cognitive biases and heuristics"* (p. 108). This definition identifies some features that could help define the concept of fake news. That is, appealing to an individual's pre-existing cognitive biases in order to change their mindset and behaviours. In this study, we adopt this definition of fake news, where it is defined as a deliberate intent to deceive by manipulating individuals' cognitive biases and causing public harm for financial or ideological profit, exploiting the possibility of reaching a vast audience through social media.

4.4.2 The fake news dissemination process

The dissemination process involves creators who develop and use fake social media profiles to spread fake news online. Previous studies have consistently focused on the patterns behind the process, as well as the motivations that drive people to spread or share fake news, usually via social media. Studies (e.g. Beyens, Frison, & Eggermont, 2016; Bronstein et al., 2019; Colliander, 2019) in the psychology discipline have examined *social influence* and *comparison theories* to understand the fake news sharing behaviour of social media users. Individual behaviour is affected by social processes, and such influence is even more marked in social media environments: sharing behaviour was found to be strongly affected by the behaviour of other people within their social community (Beyens, Frison, & Eggermont, 2016; Bronstein et al., 2019; Colliander, 2019). Thompson and colleagues (2019) highlight that people seek gratification from sharing information within their online community, regardless of the veracity of such information. Others hypothesize that social media users experience a flow state when browsing social media platforms and sharing false information (Obadă, 2019). However, our findings suggest that two different types of agents can be involved in the dissemination process of fake news: non-humans and humans.

Common non-human agents exist in the form of social bots (Zhang and Ghorbani 2020), involving computer algorithms that are designed to exhibit human-like behaviour, artificially produce content and interact with humans on social media (Ferrara et al., 2016). By artificially performing actions such as liking, sharing and commenting, social bots are known to accelerate the spread of fake news (Lazer et al., 2018). Some studies have confirmed the large presence of social bots on social media: between 9%-15% of Twitter users and 60 million Facebook accounts are thought to be social bots (Lazer et al., 2018). Social bots are not only able to perform a wide range of activities, but have become increasingly sophisticated or ‘smart’ since they can scout the Internet

for information to fill their profiles and post collected materials at a scheduled rate (Ferrara et al., 2016). Given the vulnerability of social media to large-scale infiltrations, social bots are often organised in networks (i.e. Socialbot Networks), resulting in hundreds of unique accounts being managed by only one computer (Boshmaf et al., 2011). Networked social bots communicate with each other to perform scheduled activities simultaneously and are programmed to follow and re-message one another on social media (Kollanyi, Howard, & Woolley, 2016). Social bots play a significant role in spreading fake news on social media for two reasons. First, they amplify fake news in the early spreading moments and spearhead the fake narrative to go viral (Azzimonti & Fernandes, 2018). Second, they are able to recognize and target influential users through replies and mentioning, so such influential users are involved in the spreading process (Shao et al., 2017).

Human agents are also responsible for the spread of fake news on social media, knowingly or unknowingly, and can be classified in two distinct groups: *malicious* and *benign*. The former user group includes real users who decide to share the content even if recognized as false, presumably pursuing a political or ideological goal. In addition, some malicious users are paid in order to disseminate a particular content or target a specific demographic (Zannettou et al., 2019). The second group is the most difficult to analyse because it includes all the users who share some piece of false information without recognizing it as false, but actually believing in and trusting it. These kinds of users re-share some information through social networks on different occasions. For example, users are more willing to re-share content when they perceive a high quality of such information (Koohikamali & Sidorova, 2017). The perception of quality plays an important role, especially when users show high online trust in the sender of the information (Talwar et al., 2019). In addition, social media users are strongly influenced by conformity to other users in their sharing

behaviour. Individuals spend little time and cognitive effort when digesting online content (Weinreich et al., 2008). Therefore, the actions of other users (i.e. sharing, liking and commenting) significantly influence individuals' attitudes toward misinformation and their intention to comment and share fake news (Colliander, 2019). This suggests that the social impact and collective opinion on social media can drive the diffusion of misinformation amongst benign online users (Li & Sakamoto, 2014). This evidence sheds new light on the sharing motivations associated with fake news: benign online users might not share fake news in the pursuit of a financial or political/ideological goal, but pursuing social acceptance in a desired group through informing the other members about specific concerning topics, also reinforcing the group solidarity.

4.4.3 Spreading channel features

This theme focuses on the role played by social media in spreading fake news. Social media represents an ideal environment where fake news spreads freely and widely (Lazer et al., 2018; Rochlin, 2017; Zhang & Ghorbani, 2020), because of four important features. The first feature is represented by *low entry barriers*. The cost of entering the market and producing contents on social media is very low (Allcott & Gentzkow, 2017). Creating an account on social media is free and improving the popularity of an account, in order to amplify the effects of the posted contents, has a relatively low cost. There are some specialized social media companies who provide services such as selling followers (real and bots), spreading contents via bots and posting contents at a scheduled rate. For example, it is possible to reach 300,000 followers on Twitter in a month by spending just $2,600 or to discredit a journalist on social media for $55,000 (Gu, Kropotov & Yarochkin, 2017).

The second feature is the *format of social media* itself. Information on social media is presented in 'thin slices' (Allcott & Gentzkow, 2017) so it is difficult for the reader to judge its veracity. Therefore, headlines are created to grab users' attention: the more users interact with a post (by liking, commenting or sharing) the higher the probability that this post will appear in the news feed (Gu, Kropotov, & Yarochkin, 2017). Social media operates in a so-called "Headline-primacy world" where more importance is given to headlines than to the source of the information (Kim & Dennis, 2019). This means that what readers think about the information (i.e. confirmation bias) has more influence on the believability of the information than its source (Kim & Dennis, 2019). Furthermore, the varied users who re-share posts on such platforms make it difficult to identify the real source of information (Tandoc, Lim, & Ling, 2018). This blurring of sources makes users legitimate socially proximate sources of information as credible (Buchanan & Benson, 2019). Moreover, "the shallowing hypothesis" suggests that new media technologies that provide people the possibility of performing social media activities (e.g. sharing and texting), lead to a decline in ordinary reflective thinking and instead promote superficial thinking (Annisette & Lafreniere, 2017). Consequently, people's susceptibility to fake news increases in the social media environment (Bronstein et al., 2019; Pennycook & Rand, 2019).

The third characteristic is the *polarization* of social media. Several studies confirm that users on social media platforms are polarized (Bessi et al., 2016; Del Vicario et al., 2019), meaning that they tend to read and share information consistent with their prior beliefs (confirmation bias), creating close, non-interacting communities around different topics: the so-called echo chambers (Bessi et al., 2016). Users that are confined within these communities tend to be exposed only to confirmatory information that gets accepted even if containing deliberately false claims (Bessi et

al., 2016; Del Vicario et al., 2019). Personalization algorithms facilitate the creation of echo chambers, enabling disinformation to thrive across these platforms (Borges & Gambarato, 2019; Spohr, 2017).

The fourth feature is that social media is a *source of information*. Over the past decade, social media have transformed how individuals, organizations and institutions create and share information with each other (Marchi, 2012). Social media started as platforms where users could connect with their friends, but it has morphed into platforms where users produce, consume and exchange different types of information, including fake news (Tandoc, Lim & Ling, 2018). As a result, contents get published and shared without editorial oversight (Verma, Fleischmann, & Koltai, 2017), so false claims can diffuse significantly farther, faster, deeper and more broadly than real news (Vosoughi, Roy & Aral, 2018).

4.4.4 Outcomes

For consumers and firms, the negative outcomes of fake news are linked in three ways. First, firms are targeted by fake news (Berthon & Pitt, 2018) in an attempt to change consumers' minds about a particular firm or product. For example, Pepsi and New Balance faced a period of people boycotting after falling victims of fake news (Obadă, 2019). The same happened to McDonald's when the company was accused of using worms as an ingredient in their hamburgers (Cheng & Chen, 2020) and to Coca Cola when a false message reported a recall of Dasani water due to the presence of a parasite (Chen & Cheng, 2019). Being a victim of fake news requires companies to plan carefully a response strategy to minimise its negative impact (Vafeiadis et al., 2019). Second, firms can give legitimacy to fake news and also be contaminated by association (Berthon, Mills & Pitt, 2018). When a reader comes across a suspect story, he or she is more likely to validate it if

sponsored by a well-known brand (Berthon & Pitt, 2018). Additionally, fake news has a negative impact on consumers' brand attitudes. For instance, when a firm's advertising appears alongside fake news or within a fake news website, consumers' perceptions of source credibility influence brand trust and, in turn, brand attitudes (Visentin, Pizzi & Pichierri, 2019). Finally, the association with fake news exposes firms to high reputational risks (Berduygina, Vladimirova, & Chernyaeva, 2019). The relationship between firms and fake news is facilitated by advertising, specifically programmatic online advertising (Berthon & Pitt, 2018). Programmatic advertising is the practice of automated distribution and placement of content, chasing online traffic (Mills, Pitt & Ferguson, 2019). Firms are increasingly opting for online advertising, so fake news' creators are incentivized to deliver greater volumes of fake content to drive more online traffic. Hence, programmatic advertising and fake news encourage each other, exacerbating fake news' impact on firms branding and consumer brand attitudes (Mills, Pitt & Ferguson, 2019; Bakir & McStay, 2018; Visentin, Pizzi & Pichierri, 2019).

Fake news can also have negative outcomes beyond marketing. Exposure to media discourses on fake news has a negative effect on individuals' media trust and on the ability to distinguish real from fake news (Van Duyn & Collier, 2019). This is likely to create confusion about prior knowledge, doubts about whether the prior knowledge is correct and reliance on inaccurate information (Rapp & Salovich, 2018). Consequently, people will base their subsequent behaviours and choices on this inaccurate knowledge. This can have negative impacts in politics (Allcott & Gentzkow, 2017), on health-related issues such as vaccination (Carrieri, Madio, & Principe, 2019), on finance and stock markets (Hart, 2017; Brigida & Pratt, 2017) as well as within marketing.

4.4.5 Fabricated legitimacy

This review suggests that for fake news to be successful, it must appear credible and trustworthy by readers. Fake news creators achieve this apparent legitimacy by employing a process of strategic presentation of fake contents, and thus can be labelled as "fabricated legitimacy". Its effectiveness relies on several conditions. First, creators present their articles mimicking legitimate sources of news in order to gain credibility and trust from its target audience (Lazer, 2018). Second, fake news is often presented in the same form as authentic news, for example by using fonts and colours for headlines that could recall legitimate sources of news' articles (Allcott & Gentzkow, 2017). Third, fake news is built around topics that are also addressed by the mainstream media (Xu et al., 2018), misrepresenting facts (e.g. manipulating images or changing names or places) to the point that they are no longer accurate (Tandoc et al., 2018).

Whether it is an article from a fake news website or a tweet, fake news possesses many of the same features as a trustworthy news article. The first feature is represented by the w*ebsite domain and layout*. Starting from the name of the website, nothing is casual with news websites' names chosen to resemble those of other legitimate sources of news. For instance, among the most influential fake news websites in the run-up of 2016 U.S. presidential elections we find: denverguardian.com; USAToday.com.co; NationalReport.net and WashingtonPost.com.co (Allcott & Gentzkow, 2017; Molina et al., 2019). In addition, those websites are designed to mimic official news sources in terms of page layout, colours and fonts used (Lazer et al., 2018; Rini, 2017). Often such domains are registered via proxy services for the creators to remain anonymous (Xu et al., 2018).

Moreover, the *headlines and subheadings* of fake news articles are carefully designed. Fake news articles are written in a journalistic style, with sensationalistic headlines (e.g. *"BREAKING: Donna*

Brazile dies in fiery car crash." or *"Pope Francis shocks world: endorses Donald Trump for President"*) and subheadings in order to catch the attention of the target audience and "infect" their minds and feelings (Gu, Kropotov & Yaronin, 2019). Then the fake name of the author is presented (Allcott & Gentzkow, 2017; Rochlin, 2017). In order to fight the fabricated legitimacy embedded in headlines, several social media platforms introduced labels to warn readers about the possibility of the article being false. Such efforts, though, were found to have a negative effect on belief in misinformation (Clayton et al., 2019), actually they were found to reduce the perceived accuracy of true news headlines (Pennycook & Rand, 2017).

Finally, the *text corpus*. Even though its appearance could recall legitimate sources of news, there is a difference in the tone and style of the writing. In fact, in order to put more emphasis on provoking readers, fake news often contains profanities, pronouns and a low linguistic register (Jack, 2017). Additionally, fake news articles present longer paragraphs than real news articles and also have more positive and negative affect (Asubiaro & Rubin, 2018). In other words, the text corpus is specifically designed to provoke readers. However, often fake articles include manipulated pictures or videos that could reinforce their perceived credibility (Jack, 2017; Tandoc, Lim & Ling, 2018; Shen et al., 2019). For example, in 2017 Starbucks fell victim of a fake news that affected its reputation: some social media accounts advertised the so-called "Dreamer Day" in which the coffee chain would give out free frappuccinos to unregistered migrants in the US (Obadă, 2019). This fake news was successful as creators used the real Starbucks logo and colours in advertising this fake event.

4.4.6 Attitudes

The final theme is labelled as attitudes, referring to the analysis of psychological mechanisms and biases that make individuals believe in fake news (Pennycook et al., 2018; Bronstein et al., 2019; Britt et al., 2019). The most important driver of belief in fake news was found to be *confirmation bias*, also known as selective exposure or belief bias. Quattrociocchi, Scala & Sunstein (2016) reported that *selective exposure* on social media is responsible for people's belief in fake news, because of users' exposure to contents consistent with their vision of the world. Furthermore, a new piece of information is more likely to be accepted as true by individuals if it is consistent with other things they assume to be true (Lewandowsky et al., 2012). Selective exposure enhances *third-person perception* of fake news as individuals perceive others as more susceptible than themselves to the detrimental effects of fake news (Jang & Kim, 2018). Confirmation bias also mediates individuals' social networking activities, as it is a form of psychological defence from being exposed to divergent opinions (Kim et al., 2017), and it is also responsible for activating another mechanism: the *illusory truth effect* (Polage, 2012). Given that individuals show a tendency to select information that is consistent with their prior beliefs, the continuous exposure to the same contents can influence individuals' subjective truth (Unkelbach et al., 2019). The mere repetition of fake news (Britt et al., 2019; Fielden, Grupac & Adamko, 2018), in combination with a process of continuous exposure to it (Pennycook, Rand & Cannon, 2018), leads individuals to validate them as true. Repetition of information *"primes"* (*priming theory*) users' minds, making the recalling of (false) information easier and influencing subsequent evaluations of information (Van Duyn & Collier, 2019).

Cognitive abilities and style also play a fundamental role in evaluating the veracity of information (Haug & Gewald, 2018). This process requires a certain level of cognitive abilities. Consequently,

individuals who engage less in analytic thinking or have a lower level of cognitive abilities, are more likely to believe in fake news (Bronstein et al., 2019; Pennycook & Rand, 2019). Moreover, such less-analytic individuals are also less likely to adjust their attitudes, even after they learn that they based a previous evaluation on fake news (Roets, 2017). This is also due to the fact that our memory system (*memory bias*) does not automatically replace the old wrong information, that actually remains available and can continue to have an effect on individuals, known as the *continued influence effect* (Britt et al., 2019).

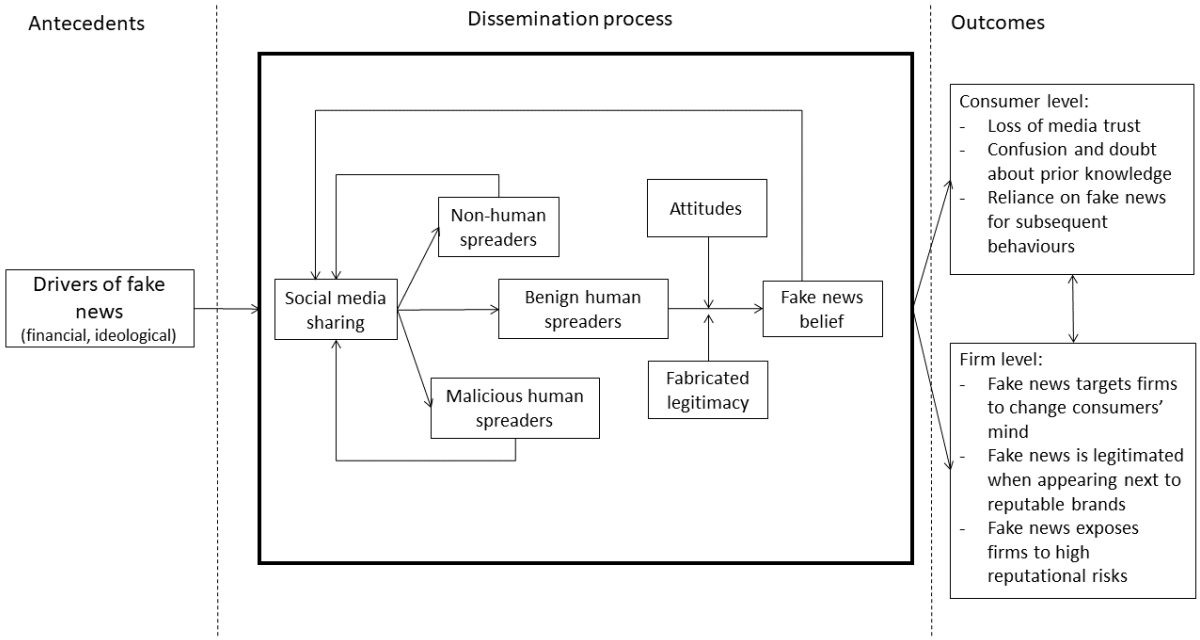
These beliefs and memory biases are a core part of human behaviour and make it difficult for individuals to detect lies. However, these factors are exacerbated by the nature of the contemporary 'post-truth' world. (Berthon & Pitt, 2018; Cooke, 2017). 'Post-truth' can be defined as "relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief" (McDermott, 2019. p 218). In this world emotions play a significant role in shaping individuals' opinions, even more than facts. Moreover, nowadays there is an overall loss of trust in institutions, including news media (Tandoc et al., 2018). As mentioned earlier, social media has emerged as one of the most powerful information channels, disintermediating the access to the production of news (Tandoc, Lim & Ling, 2018). Therefore, fake sensationalistic news can find it easier, today, to appeal to different people and gain credibility (McDermott, 2019).

4.5 Theoretical framework for the fake news process

Drawing from the insights identified through the review and analysis of interdisciplinary literature, we propose a framework (Fig. 5) for the fake news process and relevant research propositions to

illustrate the fake news process. The framework synthesizes the process of creating and disseminating fake news, as well as its consequences on consumers and firms.

Figure 5.4: *Theoretical Framework*



4.5.1 Antecedents

Antecedents represent the factors that prompt fake news creation, including the motivations behind the creation of fake news and the techniques employed to fabricate legitimacy. Fake news creation is a deliberate and strategic act (Gelfert, 2018). Different entities could be involved in the process of creating fake news, from teenagers (Subramanian, 2017) to political organizations or activists (Zannettou et al., 2019). Despite their different background, these creators share some of the same motivations that encourage them to create fake news. The first motivation is financial. Often, fake news is created as clickbait to chase online traffic and, in turn, revenues from advertising (Berthon & Pitt, 2018). The second motivation is political or ideological. In this case, fake news aims to discredit a political opponent (Rini, 2017) and influence individuals about particular political topics (Allcott & Gentzkow, 2017). Through the strategic presentation of their content, a process

we label as *Fabricated Legitimacy*, fake news creators make their content appear credible in order to enable its spread through social media. Therefore, we propose:

Proposition 1: Fake news is created to pursue financial and/or ideological goals and is materialised via fabricated legitimacy to enable content virality.

4.5.2 Dissemination Process

The dissemination process includes 1) all the actors involved in the retransmission of fake news on social media, 2) their relationships and motivations to share and 3) the psychological factors influencing individuals' belief in fake news. Social media represents the ideal medium to spread fake news as for 1) its low entry barriers (Allcott & Gentzkow, 2017), 2) its information presentation format (Kim & Dennis, 2019), 3) the polarization of users within echo chambers where fake news can thrive (Del Vicario et al., 2019), and 4) its adoption as a source of information (Tandoc, Lim & Ling, 2018). Three main actors are involved in the dissemination process of fake news. *Non-human spreaders*, in the form of bots or Bots Networks, can magnify the reach of fake news by automatically re-sharing contents (Zhang & Ghorbani, 2020). *Malicious human spreaders* contribute to the dissemination process either because they share some of the creators' goals or are paid to do so (Zannettou et al., 2019). *Benign human spreaders* are also involved in the dissemination process. Interestingly, belief in fake news drives their sharing behaviour. Two factors play a fundamental role in shaping benign spreaders' belief in fake news. First, fabricated legitimacy makes fake news appear as legitimate and trustworthy news (Lazer et al., 2018). Second, individuals' attitudes, such as confirmation bias (Pennycook et al., 2018), cognitive abilities (Bronstein et al., 2019) and emotions (McDermott, 2019) can also determine fake news' belief. Therefore, we propose:

Proposition 2: The dissemination process can involve either a human or a non-human spreader, with either malicious or benign intent. Regardless of its nature and intent, a spreader seeks to elicit a set of responses from consumers. These cognitive, emotional and behavioural responses determine individuals' belief in fake news, which, in turn, enables fake news' dissemination.

4.5.3 Outcomes

Outcomes refers to the negative consequences of fake news at different levels. While previous literature has focussed on the consequences at the societal level, this review identifies the outcomes of fake news for consumers and firms. For consumers, fake news lowers trust in the media (Van Duyn & Collier, 2019) and creates confusion and doubt about prior knowledge (including knowledge about brands). Consumers will then base subsequent behaviours on inaccurate information (Rapp & Salovich, 2018). Firms can be 1) targeted by fake news (Berthon & Pitt, 2018), in an attempt to change consumers' minds about a particular brand or product, 2) or co-opted to give legitimacy to fake news (Visentin, Pizzi & Pichierri, 2019), 3) exposing them to high reputational risks (Berduygina, Vladimirova, & Chernyaeva, 2019). Consumer-level and firm-level consequences of fake news are strictly interlinked (Berthon & Pitt, 2018). Consequently:

Proposition 3: Fake news will impact consumers and firms differently. More specifically, fake news will change consumers' knowledge, attitudes and behaviours related to brands and products. Fake news will also expose firms to negative consequences, ranging from brand reputation tarnishment to product boycotts.

4.6 Discussion and further research

This review provides a systematic overview of the interdisciplinary literature on fake news, develops a framework integrating the research findings with three propositions, and then identifies directions for future research from a marketing perspective.

Definitions. The literature around fake news faces a *definitional problem* or issue. Misinformation is not a new phenomenon, it has ancient roots (Tandoc, Lim & Ling, 2018). It would be wrong, then, to define fake news as a "new phenomenon". Fake news is actually an evolution of old misinformation spreading techniques enabled by digital technologies. This review strongly highlights the role played by the Internet, and specifically social media, in the spreading of fake news. Social media magnify the spreading of fake news, making it travel fast and far in the online sphere (Vosoughi, Roy & Aral, 2018). However, there is still uncertainty and inconsistency around the definitions of fake news (Shu et al., 2017). Some authors adopt a narrower definition (Allcott & Gentzkow, 2017; Rini, 2017; Gelfert, 2018), while others favour a broader one (Tandoc, Lim & Ling, 2018; Martens et al., 2018). In addition, definitions also show confusing treatment of fake news as either misinformation or disinformation, two distinct concepts. One factor in this debate is that the term fake news has been politicized by political opinions and judgements, rather than just to material that could automatically be considered false in content. Future research should address this gap, proposing a clear conceptualization of fake news, giving an understanding of what fake news is and what is not. In this way, it will be easier to recognise and classify fake news and analyse their spreading patterns in the online sphere. For example, should memes and fake videos posted on social media platforms regarding a company's bad practice (e.g. the presence of mice inside a fast-food restaurant) be considered as fake news?

Dissemination process and spreading channel features. The most studied theme identified in the considered set of articles is the dissemination process of fake news. The majority of the articles studied this theme from the disciplines of psychology and computer science, investigating why people share fake news and the technological advances that enable and magnify the spreading

process. Our results suggest that, together with the malicious spreaders of fake news, there are also *benign social media users* that share such contents for various reasons that are, to date, understudied. We suggest future opportunities for research in marketing and consumer behaviour to address this gap. Marketing literature suggests that people share information because of three main reasons. The first motivation is self-enhancement, for the willing to appear expert or knowledgeable in the eyes of others (Tellis et al., 2019). The second motivation is social: people share information to engage with their community and feel part of a group (Oh & Syn, 2015). Lastly, the third reason is altruistic. In this sense, individuals share information to show concern for others (Hennig-Thurau et al., 2004) and to try to help others (Lovett, Peres, & Shachar, 2013). These motivations may also apply to benign agents spreading fake news, given their inability to recognize the veracity of the shared information. They may be strongly motivated by the social and altruistic goals of informing the other members of their online community about political misconduct (Allcott & Gentzkow, 2017), health issues (Li & Sakamoto, 2014) or firms' malicious activities (Obadă, 2019). Therefore, marketing research about self-enhancement and group solidarity motivations to share fake news on social media should be taken into consideration. Alongside this, as confirmed by preliminary findings from Borges-Tiago and colleagues (2020), information literacy and information technology skills could play a role in determining the sharing of fake news. Specifically, more experienced users might be more aware of the information dissemination dynamics on social media: by better evaluating the reliability of information networks these users limit the spreading of fake news through these platforms.

Outcomes. Outcomes and consequences of fake news represent the third most studied theme in our analysis. We found that fake news not only has a negative influence on consumers and brands, but also on society at large. The impact of fake news exists at societal, firm and consumer levels.

Each of the levels of analysis focuses on different relationships between victims and spreaders of fake news and on the various sources from which fake news gain legitimacy. Most of the research focus at the moment is on the broader societal level, concerning the effects of political fake news on individuals as voters and, in turn, on governments. At this level, fake news primarily presents a political or social slant, created in order to 1) discredit an opposite political party, 2) create tension around social issues or 3) create confusion about important health issues such as vaccinations. However, much of the misinformation relating to marketing exists at the firm and consumer levels, focussing on the relationship between consumers as well as consumers and firms. At the firm level, fake news is created and spread to manipulate consumers' minds about a particular firm or product. Then, when the fake news is spread, it thrives in online echo chambers (Del Vicario et al., 2016) and gains legitimacy through the trust that consumers have on other user-generated content (UGC), with abiding negative consequences (Zollo et al., 2017). Future research in marketing should investigate how firms should respond to these kinds of attacks, helping brand managers to plan the right response strategy in terms of contents, channels and time frames. Trust in co-creation of value online is also the source of legitimacy of fake news at the consumer level. This level of analysis is the most important: analysing the mechanisms that enable fake news to gain legitimacy at this stage will result in a clearer understanding of the relationships at broader levels. As fake news targets a variety of actors, from politicians to firms, adopting a multi-level approach could help differentiate and clarify the phenomenon. The main contribution of this approach is to consider the interdependence of agents and sources of legitimacy for fake news operating at different levels.

Attitudes. Our review revealed that attitudes are the least studied theme in the literature. This theme is mostly identified in the psychology discipline, while marketing scholarship represents

just a marginal contribution. We suggest that marketing scholars focus on this theme as there is room for further research in this area. For example, knowing the psychological mechanisms that influence people's belief in fake news (e.g. confirmation bias, referential theory, priming theory) could help in understanding the *determinants and the effects of Electronic Word-of-mouth* (eWOM) around a firm when it falls victim of fake news or some competitors' deceptive marketing strategies. In addition, studies about media trust and credibility could support in evaluating whether seeing a firm's advertisement alongside a fake news could affect the *attitudes* of people towards that specific firm (expanding Visentin et al. findings). While previous studies have focussed more on the cognitive mechanisms, little attention was given to the *affective and emotional determinants* of belief in fake news, elicited by the polarization mechanisms of social media (Del Vicario et al., 2016). Emotions play an important role in creating a strong bond between consumers and firms (Thomson et al., 2005; Grisaffe & Nguyen, 2010). Thus, when consumers feel strongly attached to a firm, they will be more loyal and less price-sensitive (Dunn & Hoegg, 2014), and they will likely be engaged in repurchasing behaviours (Grisaffe & Nguyen, 2010). Finally, it is inevitable to pay attention to the political implications of fake news. In times when consumer behaviour is more and more driven by political ideology (Mittal, 2018), the polarizing power of fake news plays an important role in shaping consumers' behaviours, with negative consequences for brands such as in the case of product boycotts.

4.7 Conclusions

Applying the process recommended by Denyer & Tranfield (2009), we conducted a systematic literature review on fake news. This paper represents the first attempt to provide an extensive and critical review on the topic of fake news. Previous studies have consistently opted for a more

empirical methodological approach to study fake news and its impact on consumer behaviour, such as experiments (Visentin, Pizzi & Pichierri, 2019). A systematic review approach helps advance our current knowledge of fake news in three ways. It identifies 1) a broad range of disciplines in which fake news has been studied, further highlighting the growing interest in this topic; 2) the unique traits or characteristics underpinning fake news, which can be used to support consumer detection of it, and 3) a collection of themes that summarise the issues that have been discussed and their interrelationships, summarised through the proposed theoretical framework.

Our work highlights that fake news is an emerging research stream in the business and marketing field. With this in mind, this study provides an important contribution to our understanding of opportunities for theoretical development. This review's results have also highlighted a number of knowledge gaps that researchers should resolve. Our discussion section provides the basis for future research efforts that can make a substantial contribution to developing the domain of fake news, avoiding the weaknesses of prior works. Finally, this review informs practice about the importance of fake news. In particular, it will assist marketing practitioners in understanding the impact that online misinformation can have on their business and formulating the appropriate marketing strategies. In addition, by providing a more holistic understanding of fake news, this review will help policy makers develop approaches to curb this phenomenon.

Despite the contributions presented earlier, we acknowledge some limitations. First, our work is based on secondary data, primarily, the academic literature of fake news. Whilst we have endeavoured to incorporate grey literature in our review, sources of this are very limited and thus future research can continue this endeavour and develop a more comprehensive understanding of

the topic in question. Second, we have applied meaningful keywords and prominent databases to source relevant articles in order to address our research objectives and support our critical review work. Given our keyword strategy, we position our work as entirely original, extensive and critical in nature. It provides a springboard for future research that seeks to pursue the emerging topic of fake news.

5. Research Objective 3: Identify the different facets of the study of the phenomenon from a marketing perspective

While the opening paper aimed to outline the boundaries of the fake news phenomenon and identify its characteristics, paper 2 specifically approaches the phenomenon under investigation through the marketing lens. This research note reviews the existing literature on fake news and general misinformation, identifies the gaps, and proposes new research avenues for researchers in the fields of consumer behaviour, marketing strategy, and marketing ethics.

6. Paper 2: "Fake news or true lies? Reflections about problematic contents in marketing"

Giandomenico Di Domenico

Marco Visentin

Scholars in different scientific fields and practitioners are analyzing the rise of production and diffusion of fake news and problematic information that is rapidly contaminating the digital world. Although problematic information might seriously affect brands, marketing and consumer behaviour research is surprisingly limited. This article aims to provide a research agenda for marketing by analyzing the previous literature and identifying relevant insights suggested by different disciplines. Based on the review of 86 interdisciplinary scientific papers and 5 managerial reports, we speculate on future avenues for consumer behavior, marketing strategy, and marketing ethics research about fake news and problematic information.

6.1 Introduction

Fake news, defined as *"news articles that are intentionally and verifiably false, and could mislead readers"* (Allcott and Gentzkow, 2017 p. 213), has just recently gained scholarly attention predominantly in the fields of journalism, psychology and political sciences. Less is done empirically in the marketing and consumer behaviour literature, with some recent and few exceptions (e.g.: Chen and Cheng, 2019; Peterson, 2019; Talwar et al., 2019; Visentin et al., 2019).

Fake news represents only one aspect of the ongoing crisis of *problematic information*, that is *"inaccurate, misleading, inappropriately attributed, or altogether fabricated information*" (Jack, 2017, p. 2). Problematic information includes also hoaxes, conspiracy theories, propaganda, and

true specialist information presented in distorted ways to support one's viewpoint (our "true lies"). Conspiracy theories about vaccines, palm oil and Coronavirus are just the most recent examples of true lies, of how it is possible to cause harm and have a strong negative impact on consumers, companies and democracy at large. All these concepts describe the inaccuracy of media contents and take on different shades of meaning. Such differences may seem small, but they are important for getting a thorough understanding of the issue (Jack, 2017). The different shades of disinformation seem to appear along a continuum concerning the truthfulness (Berthon et al., 2018) and intent (Levi, 2017). At one extreme of the continuum, there is disinformation entirely created without a factual basis (i.e. fake news) but able to amplify and reinforce previous beliefs. At the other extreme, there is disinformation rooted in a truthful reality but distorted to the point that the core facts are no longer factual (i.e. conspiracy theories) (Levi, 2017). Scientific literature still lacks in providing a convincing explanation of the determinants of creating and sharing problematic contents on social media and their consequences from a marketing point of view. Relatedly, extensive interaction with practice might shed light on the issue (e.g. Gu et al., 2019).

6.2 Does it really matter?

To understand the relevance of the problem for brands, we provide a sketch of three real illustrative cases. First, from a recent conceptual paper (Obada, 2019) we know that *"Pepsi Co. stock fell around 4% just prior the 2016 US presidential election when a fake news story about Pepsi's CEO, Indra Nooyi, telling Trump supporters to 'take their business elsewhere" spread in social media"* (p. 151). This is a case when *fake news* directly affects a brand. In the case of *New Balance*, a *"fake news spreader misquoted the New Balance spokesman and repackaged the message with the headline 'New Balance offers a wholesale endorsement of the Trump revolution'"* (p. 153)

causing anti-Trump groups burning *New Balance shoes* and sharing the video online. This is a case when *fake news* has an indirect impact negatively affecting the brand image. Third, Cova and D'Antone (2016) illustrate the contrasted reaction of consumers to a hoax, rooted in a real point raised by Greenpeace Italy in 2008, on the negative effects of palm oil, an ingredient of the iconic *Nutella* brand. Based on the strong attachment of consumer to the brand, some of them *"co-created and spread discourses that give any Nutella lover the possibility to relinquishing the new tension and support the idea that the brand should be kept as it is. As such, they ultimately reinforce the overall devotion to the brand"* (Cova and D'Antone, 2016 p. 182). A negative hoax added more brand content for Nutella in this case, showing an unexpected positive effect in terms of branding by boosting brand's mythology (see also.: Red Bull, see Allen et al., 2008; Starbucks, see Thompson and Arsel, 2004).

These examples clearly show how disinformation can greatly undermine brand equity (Berthon and Pitt, 2018), especially when consumers collectively exhibit brand-dissociative behaviours, after being exposed to fake news (Ferreira et al. 2019). However, they also suggest that this topic deserves attention, as companies can turn a possible threat into an advantage by keeping primary control of their marketing agenda and avoiding to ceding it to outsiders.

6.3 State of the art

Two important and unexpected political outcomes encouraged the proliferation of academic interest on the possible impact of misinformation after 2016: the US Presidential Elections and the Brexit Referendum (e.g. Allcott and Gentzkow, 2017). One of the main drivers of problematic information sharing on social media is confirmation bias (i.e. the individuals' tendency to select only information consistent with their vision of the world) (Kim and Dennis, 2019). Some people

choose their personal truth or rely on their own authorities (e.g.: *scriptural inference* in the work of Tripodi, 2018), preferring to hold on inaccurate beliefs (Zollo and Quattrociocchi, 2018). Consequently, people may keep on sharing problematic information even if it is known as false as they *"care more about the point of view being advocated than the legitimacy of the [content]"* (Newhoff, 2018). IT and computer science research subsequently proposed new techniques to automatically detect misinformation on social media (e.g. Zhang and Ghorbani, 2019). Since fake news, as we today define it, started targeting politicians and political organizations, marketing interest in the phenomenon came later when some multinational companies faced a boycott wave after falling victims of fake news (Obada, 2019).

To date, few marketing studies focus on the negative effect of social media misinformation on brands (e.g. Berthon and Pitt, 2018; Berduygina et al., 2019). Recent research evaluated the possible consequences of fake news on brands, proposing different response strategies for companies (Vafeiadis et al., 2019; Mills and Robson, 2019). Some authors suggest the need to provide tools to improve fact-checking, assuming that individuals might change their mind when confronted with the evidence of facts (Talwar et al., 2019; Wang, 2017). Other scholars focus on possible cues that support sharing behaviour, like media trust, self-efficacy, amount and convergence of the information available (e.g.: Chen and Cheng, 2019; Stueckemann, 2019; Munzel, 2016). In the attempt to determine the effect of coupling fake news to a brand ad, Visentin and colleagues (2019) supported that deception detection self-perceived efficacy does not affect the formation of attitudes toward the brand.

Given the initial phase of marketing studies around these topics, a question arises: how can marketing advance the knowledge on problematic information? To answer this question, we have reviewed the literature on *fake news* and *problematic information*, published in the last three years

(2017 – 2020), finding 86 articles that mention one combination of the following keywords: “fake news”, “consequences”, “consumer behaviour”, “social media”, “problematic information”. We also collected 5 reports from the managerial practice. The selected papers come from different scientific fields: 14 from psychology (e.g. Roets, 2017; Pennycook and Rand, 2019), 19 from computer science and IT (e.g. Del Vicario et al., 2019; Kim and Dennis, 2019), 15 from political sciences (e.g. Allcott et al., 2019; Clayton et al., 2019), 14 from journalism (e.g. Tandoc et al., 2018; Bakir and McStay, 2018), 13 from sociology and philosophy (e.g. Marwick, 2018; Giglietto et al., 2019), 8 from business and management (e.g. Baccarella et al., 2018; Chelliah and Swamy, 2018) and 13 from marketing. Table 7 provides an overview of marketing studies. Interestingly, 9 out of the 13 marketing studies were published in a 2019 SI of *Journal of Product and Brand Management*.

Table 7: *Marketing contribution to fake news and problematic contents*

Main focus	Citation	Method	Main findings
Brand communication	Berthon et al. (2019)	Conceptual	Authors propose a typology of fake news that can be reconceptualized as dimensions and brand communications
	Paschen (2019)	Database analysis through AI	The author analyses how emotional appeal in fake news content is consumed, shedding light on the differences between fake news and true brand communications.
	Flostrand et al. (2019)	Delphi study	Results from interviews with 42 brand managers about fake news are discussed. Service brands are most at risk.
Brand management	Peterson (2019)	Conceptual	The author proposes several strategies to preserve brands’ integrity in the age of fake news.

Brand reputation	Berthon and Pitt (2018)	Conceptual	Authors analyse different situations in which brands come in touch with fake news and the potential negative outcomes of such relationships
Brand strategy	de Regt et al. (2019)	Case studies	Authors identified seven denialistic marketing tactics that contribute to the diffusion of fake news in the health and beauty industry.
	Weidner et al. (2019)	Conceptual	Authors present a framework to examine the different impact of fake news, taking consumers' confirmation bias into account.
Brand response to fake news	Mills and Robson (2019)	Conceptual	Authors suggest that authenticity and emotional engagement are keys to effective brands' storytelling in response to fake news.
	Vafeiadis et al. (2019)	Experiment	Consumer's involvement in the fake news issue determines the effectiveness of the crisis response strategy.
Brand trust	Visentin et al. (2019)	Experiment	Fake news can produce different negative consequences that spill over to the brand advertised alongside the fake news.
Consumers' sharing behaviour	Talwar et al. (2019)	Model testing	Authors suggest that online trust, self-disclosure, fear of missing out, and social media fatigue are positively associated with the sharing of fake news.
Consumers' information processing	Nyilasy (2019)	Conceptual	The author discusses how consumers process fake news and its relevance to marketing communications.
Consumers' response to fake news	Chen and Cheng (2019)	Structural Equation Modeling	Antecedents and outcomes and persuasion knowledge toward a fake news post regarding a brand are proposed.

6.4 Future agenda and challenges

Previous interdisciplinary research on fake news and reports coming from the practice may help marketing scholars in taking a step beyond in analysing fake news and problematic information.

6.4.1 Future research in consumer behaviour

Qualitative research and reports from practice suggest that we should reconsider classic models, assuming that individuals rationally evaluate their actions to achieve their goals. Individuals' prior beliefs, attitudes and the emotions aroused by reading misinformation might play a more significant role in shaping attitudes and behaviours toward the news, the source and the object of the news (e.g.: a brand, a company, a product category, a celebrity, an idea) (Bakir and McStay, 2018). Relatedly, do prior beliefs and attitudes moderate/mediate the relationship between source credibility and news credibility? And, in turn, what impact on brand attitudes? It would be not surprising, then, that negative emotions can affect the formation of brand attitudes – both negative and positive –, when individuals are confronted with problematic information regarding a brand, inevitably affecting brands' reputation. Marketing research should assess to what extent problematic information can tarnish the brand reputation and, more importantly: is problematic information something that has just short-term consequences or, as Van Duyn and Collier (2019) argue, does it prime individuals' minds, affecting the subsequent evaluation of new information?

Further research should investigate how psychological differences might attenuate or exacerbate the effects of disinformation. Construal-level Theory (Trope and Liberman, 2010) could provide the framework to identify the psychological elements that determine individuals' construal level of fake news and how it influences the dissemination process.

Furthermore, even though IT scholars' hard focus is on data and algorithms, they provide explanations that deserve further analysis to unveil the psychological and sociological processes behind the formation, the diffusion and the effects of problematic information. Are there any socio-demographics that affects individuals' susceptibility to fake news? As social media and websites rely on algorithms to maximize their ability to reach the right target and improve click rates, scholars should analyse more in-depth the relationship between behaviours, as they emerge from data, and the other levels (i.e. affective and cognitive) of an individual's response. In doing this, qualitative research methods based on human agents might provide valuable support to automatic pattern-matching machines.

In addition, the concept of *echo chamber* provides several research opportunities (Del Vicario et al., 2019) since digital environments allow individuals to construct a particular image of the self, altering, in some cases, their self-representation. The challenge for marketing scholars is to identify elements of behaviour mismatching in online and offline contexts, to analyse the different motivations behind disinformation sharing online and the real impact on consumers in everyday life. It is also needed to better understand how social media users gain legitimacy and recognition within an *echo chamber*. What is role of the frequency and tone of social media engagements (i.e. likes, comments, shares, followers and friends) in shaping users' influence?

6.4.2 Future research for marketing strategy

Oftentimes, fake news exposes brands to opponents' attacks. However, as suggested by the palm oil case, companies can turn a threat into an advantage by carefully managing their stakeholders (Cova and D'Antone, 2016). Consistent with Berman and colleagues (2019), we suggest that managing the interaction and feedback in the brand community could make the difference in determining fake news' outcomes. In particular, companies' responses might trigger supportive

comments from the brand community and discourage contribution from the opponents. Further research should expand the crisis management literature in the context of fake news (e.g. Vafeiadis et al., 2019), attempting to find what best practices companies can adopt to cope with the reputational threat and recover consumers' trust.

Finally, collective strategies could be effective in fighting the spreading of disinformation. To date, companies in different industries agree on pulling their advertisements from fake news websites, even though the impact of fake news is detrimental to the brand regardless of the website where the ad is displayed (Visentin et al., 2019). It is possible that joining efforts to limit the spread and educate individuals about the risks of disinformation could result in setting new standards for information transparency and correctness. As in the case of Corporate Sustainability reporting (Fernandez-Feijoo et al., 2013), stakeholders' pressures to adopt such standards would improve the overall quality of information.

6.4.3 Future research for marketing ethics

The proliferation of false and misleading contents poses serious issues for academic research on social media. Will research still be reliable even though conducted on social media data that are not authentic? In times when the trust in institutional authorities is at its lowest, academics must ensure that their research is conducted on validated data: what is the role that social media platforms play in this process, as they struggle to find a balanced compromise between giving the full freedom of speech to their users and fighting misinformation (Facebook, 2020)? Further research could help policymakers define this border. Another issue is represented by the easy access to users' data that social media platforms provide companies, among them the so-called "Black PR", to find out more about potential targets of their information operations through fake news (Silverman et al., 2020). Would it be "more ethical" to restrict access to such information

just to universities and research centres? Finally, fake news spreading poses ethical problems for news outlets as well. In the case news outlets inadvertently publish fake news, are they obliged to remove that information and correct it? To what extent policymakers can find a balance between limiting the press' freedom and the necessity of having well-informed citizens?

6.4.4 New dangers on the horizon

New forms of misleading contents have started spreading on social media, potentially more dangerous than other forms of problematic information. They are called "cheap fake" and "deep fake". Cheap fakes employ a simple "selective editing" technique to change videos in ways that they do not show what really happened. Deep fakes, instead, use artificial intelligence to create entirely fictional videos, images or audio. To date, these new techniques are utilized predominantly in politics, to discredit politicians or political organizations (Theguardian.com, 2019). What is the level of individuals' susceptibility to these new techniques? And, what are the effects in term of attitudes and behaviour?

Finally, it is inevitable to mention the opportunity for research in the wake of the Coronavirus emergency. Unfortunately, COVID-19 has triggered a massive spreading of disinformation. For example, fake news linking the spread of the virus to the development of 5G technology caused the vandalization of many cell phones masts in the UK, physical attacks to telecoms engineers (Bbc.com, 2020), and threatened the reputation of specific mobile communications (e.g. Vodafone) or technology (e.g. Huawei) companies. Many conspiracy theories - that centre around the virus as a bioweapon created in Wuhan - are creating a climate of distrust where the public is treating official sources of information with growing scepticism (Oxford Analytica, 2020). For this reason, traditional media outlets are now facing severe problems of brand reputation, especially for what concerns the trustworthiness and credibility dimensions. Unlike previous

outbreaks, the spreading of disinformation about COVID-19 has been dramatically amplified by social media to the extent that “We’re not just fighting an epidemic; we’re fighting an infodemic”, said World Health Organization (WHO) Director Ghebreyesus. Social media platforms (Larson, 2020), as well as Google and the WHO (Zarocostas, 2020), have taken actions for fighting the infodemic, intensifying collaborations with fact-checking organizations and promoting the sharing of reliable health information from acknowledged experts in the attempt to alleviating the risk of a strong negative impact on people’s trust in scientific data. However, given the overwhelming amount of information that flows in digital environments, and the fast “rise and decline” rates of trend topics on social media timelines, the empowerment of fact-checking organizations might be not sufficient. Accordingly, social media platforms, traditional media and institutions should adopt a more “human-focussed” approach, by instilling in people the necessity of spending more time and cognitive efforts confronting various legitimate sources before accepting information as true.

7. Research Objective 4: Understand the dynamics of the legitimation process of misinformation driving social media sharing

Having developed a more thorough understanding of fake news and misinformation from a marketing perspective, the following two empirical papers shed light on the motives that lead social media users to share misinformation in digital environments. Whilst the psychology (ref) and political science (ref) literatures have provided some explanations regarding the motivations behind users' misinformation sharing behaviour on social media, this dissertation adopts a different approach, trying to delve deeper in consumers' information processing and legitimization processes. In this vein, paper 3 investigates how different information presentation formats on social media affect users' information processing and, in turn, willingness to share misinformation. This paper uses the Dual Process and Social Influence Theories to investigate social media users' behaviours in the context of misinformation. In particular, the paper finds that giving primacy to the source of misinformation on social media (i.e. displaying the name of the source before the headline) decreases the willingness to share misinformation via decreased trust in the message and increased perceptions of deceptive intent of the source. A second experimental design confirms that this effect holds only if the information is shared by a weak tie, as individuals tend to trust strong ties on social media.

8. Paper 3: “Free but fake speech: when giving primacy to the source decreases misinformation sharing on social media”

Giandomenico Di Domenico

Daniel Nunan

Jason Sit

Valentina Pitardi

Social media platforms are facing increasing tensions in balancing the desire to maintain freedom of expression with limiting the spread of fake news and misinformation. This study investigates whether giving primacy to the source of misinformation on Facebook influences users' sharing behaviour. Two experimental studies show that when fake news is presented in a source-primacy format, users are less likely to share the post because of reduced trust in the message and increased perceptions of deceptive intent. Additionally, this effect persists only when the person sharing the fake news has a weak interpersonal relationship with the receiver. The study extends current understanding of how misinformation is shared and provides insights into how presentation formats can be used to limit the spread of fake news without restricting freedom of speech.

8.1 Introduction

Whilst social media platforms have become key platforms for social communication and dissemination of information, they have faced growing criticism over their role in hosting and spreading ‘problematic content’ (Di Domenico & Visentin, 2020). This ranges from criminal material and content that promotes hate speech through to fake news and more general forms of misinformation (Alkiviadou, 2019). Although substantial effort has gone into identifying solutions to these issues, such as developing algorithms to block problematic contents and efforts to educate users (Oakes, 2020), these activities are complicated by the key role of social media in governing

the digital sphere of communication (Balkin, 2018). Attempts to remove harmful content typically result in accusations that the platforms are limiting freedom of expression (Westfall, 2020). To safeguard freedom of speech, social media platforms typically seek to take steps to prevent the spread rather than the posting of misinformation. For example, social media have started flagging materials to users with the aim to discourage the sharing of the contents. However, such attempts have been proved to be generally ineffective (Meixler, 2017) or, even worse, to foster an implied 'truth effect' such that fake headlines that fail to be flagged are seen as more accurate (Pennycook et al., 2019).

While the fake news phenomenon gained relevance in the political realm after the 2016 US Presidential elections (Allcott & Gentzkow, 2017), there are growing commercial consequences as brands and companies are not exempt from the threat of problematic contents (Berthon & Pitt, 2018). Fake news targeting private companies can have severe consequences in terms of brand trust (Berthon & Pitt, 2018), reputation (Visentin et al., 2019) and product boycotts (Obada, 2019). For example, in 2017, New Balance faced reputational damages and negative reactions from consumers after false allegations of offering "a wholesale endorsement of the Trump revolution" (Hsu & Isaac, 2020). Similarly, in 2016 untrue news about parasites found in Coca-Cola bottles distributed across the US, rapidly spread through social media and forced the company to issue an official response to the hoax in order to protect the brand reputation (Chen & Cheng, 2019). As such, understanding how to prevent and decrease the spreading of misinformation on social media represents a relevant research area in marketing.

To date, studies on fake news in the marketing and consumer behaviour fields have mainly analysed the factors that increase fake news' believability. Selective exposure (or confirmation bias) has been identified as one of the most important drivers of fake news belief (Quattrociocchi,

Scala & Sunstein, 2016; Kim and Dennis, 2019) as individuals tend to consume information that is consistent with their vision of the world and accept it as true (Lewandowsky et al., 2012). In the same vein, Pennycook, Cannon and Rand (2018) showed that even a single exposure to misinformation contents increases perceptions of accuracy and overall believability through an 'illusory truth effect'. Moreover, previous research suggests that cognitive abilities influence the way individuals engage in the evaluation of the veracity of a piece of information (Metzger & Flanagin, 2013) such that less analytic individuals tend to believe more in fake news (Pennycook & Rand, 2019).

While studies from consumer psychology have analysed the psychological mechanisms that influence fake news belief, research from communication studies has mainly focused on the message characteristics that participate in perceptions of believability. In this sense, it has been demonstrated that source credibility (Buchanan & Benson, 2019) and source rating (Kim, Moravec & Dennis, 2019) affect message believability and users' responses. Not only the source of the news, but also the person who is sharing it can influence other users' behaviour. This is particularly true on social media platforms, where trust in what other users share was found to be a predictor of fake news sharing (Talwar et al., 2019).

In addition to such characteristics, also the way the news is presented and crafted on social media platforms can influence the way individuals form beliefs. In this sense, the current news' presentation format on social media is designed to highlight the person who is sharing the news and the news' headlines rather than the source of the information, such that social media users generally are presented with the user who shares, the headline and the image first, while the source of the news is toned down. The impact of the presentation's order of and the emphasis given to

information on individuals' impressions formation and their subsequent decisions is known as the primacy effect, and is well documented in the literature (e.g. Crano, 1977; Eyal et al., 2011; Fourakis & Cone, 2020). However, to date, only one study has explored this effect in the realm of fake news and social media showing that when the source precedes the message fake news belief decreases (Kim and Dennis, 2019).

Building on this, this paper aims to further expand Kim and Dennis' results and it investigates the impact of the fake news presentation format and tie strength on social media users' sharing behaviour. Specifically, we propose that placing primacy on the source of the fake content on social media decreases sharing behaviour. We argue that this effect is mediated by a decrease of trust in the message (i.e. the information is delegitimized) and an increase of perceived deceptive intent of the source. Moreover, we investigate the moderating role played by the strength of the relationship between the person who share the content and the receiver (Mittal, Huppertz & Khare, 2008).

This study contributes to knowledge in several ways. First, we extend previous research (Kim and Dennis, 2019) showing that the primacy effect of the source decreases sharing of misinformation only when the content is shared by a weak tie (vs strong tie). Second, the study adds to the fake news literature (Visentin et al., 2019) by identifying trust in the message and perceived deceptive intent as two psychological mechanisms that influence willingness to share misinformation on social media.

This paper is structured as follows. First, the context for this study is presented, reviewing the literature on free speech, misinformation and social media and their interrelationships. Second, we develop the theoretical framework and present the results of two experimental studies. Finally, we discuss our findings and consider directions for future research.

8.2 Free speech, fake news and social media

Free speech can be defined as: "*the process in which people communicate freely and responsibly when using any means of protected speech or speech-like activities*" (Haskins, 1996). Through the 20th Century, free speech was governed by a dyadic system of communication, based around two actors, nation/states and individuals, with communication being mediated through a range of channels including the mass media (Balkin, 2018). However, the growth of social media platforms has turned this dyadic system into a pluralist system, where the characteristics of social media platforms result in a shift in decision making over what is, and is not, acceptable speech from a system of public governance to one of private governance (Balkin, 2018). This requires social media platforms to negotiate these decisions within a complex web of overlapping legal and ethical boundaries. In their role as arbiters of online communication, they balance their publicly held philosophies of free speech whilst requiring users to adopt terms of services that provide them with the capabilities to limit such speech (Heins, 2013).

When addressing issues of freedom of speech around potentially harmful content, social media platforms have typically focused on actions that maintain freedom of expression, through allowing messages to be posted, but limiting their ability to be spread and accessed. Initial approaches in this direction include the simple flagging of misinformation. A very recent example of this strategy is provided by Twitter, who attached warning and fact-check labels to the latest posts by Donald Trump on US election results (The Guardian, 2020). However, preventing the sharing of fake news by tagging misinformation to users was found to be ineffective (Meixler, 2017). On the contrary, it has been recently demonstrated that flagging misinformation contents can increase credibility and accuracy of those fake news that failed to be flagged (Pennychook et al., 2019). As social

media platforms face increased pressure to take actions to limit the phenomenon, the challenge is therefore to understand how to manage the spread of misinformation.

8.2.1 Fake News, misinformation & problematic content

Fake news, defined as "news that is intentionally and verifiably false and could mislead readers" (Allcott & Gentzkow, 2017 p. 213), is a form of deliberate presentation of misleading information (Gelfert, 2018) that proliferate in our media landscape (Vosoughi et al., 2018). While the term fake news came to the forefront relatively recently, the existence of misinformation is not new; however, it seems to have found in social media a very powerful medium to spread (Lazer, 2018) and influence consumers (Borges-Tiago et al., 2020).

During the last years, the reasons behind people believe in fake news and share it through social media have attracted considerable academic interest (Di Domenico et al., 2021). Individuals' pre-existing beliefs were found to play an important role in determining exposure to (Del Vicario et al., 2016) and belief in (Lewandowski et al., 2012) fake news. Confirmation bias, indeed, fosters the creation of echo chambers on social media (Del Vicario et al., 2016) so that users are continuously exposed to information consistent with their worldview. Thus, the continuous exposure to misleading information can increase people's belief that the false information is true (Fazio et al., 2015; Pennycook, Cannon & Rand, 2018) and thus stimulate sharing behaviour (Effron & Raj, 2020). A large stream of research has also focused on the cognitive processes involved in evaluating information, affecting individuals' belief in fake news. Consistent with dual-process theories of judgement (Petty & Cacioppo, 1986; Kahneman, 2011), Pennycook and Rand (2019) suggest that individuals that engage more in reasoning and analytic thinking are less likely to perceive fake news as accurate, regardless of their partisan alignment. Other studies that support these findings propose that belief in fake news is also associated with dogmatism, religious

fundamentalism and bullshit receptivity (Bronstein et al., 2019). Therefore, when individuals are nudged to engage in deliberation, the accuracy in evaluating information increases and thus facilitates more accurate belief formation (Bago, Pennycook & Rand, 2020) and limits the sharing of fake news on social media (Fazio, 2020).

In social media settings, the sharing of fake news is inevitably linked to the concept of trust. Trust helps in understanding how users interact with each other and with contents on social media platforms (Gretry et al., 2017). In the context of fake news, trust in other users was found to be a predictor of both fake news' belief (Halpern et al., 2019) and sharing (Talwar et al., 2019). Also, media trust was found to predict fake news persuasion on social media users (Chen & Cheng, 2019). In general, information coming from trusted sources is more likely to be propagated, even in the case of fake news (Buchanan & Benson, 2019).

While research has advanced knowledge on the topic important factors in the understanding of the fake news sharing process remain underexplored (Di Domenico & Visentin, 2020). More specifically, the majority of studies have focused on the psychological profiles and mechanisms that influence fake news believability. However, little is known on how the way the news is presented and the interpersonal relationship between the sharer and the receiver may influence social media users' sharing behaviour (Kim and Dennis, 2019).

8.3 Conceptual Framework

8.3.1 Primacy effects & responses to misinformation

Studies of how the order of messages' characteristics influences consumer responses have been a longstanding feature of research within consumer psychology (e.g. Asch, 1946; Crano, 1977).

Many research has explored primacy effects (Tormala, Briñol & Petty, 2007), that earlier presented information has the strongest impact on evaluations (Lund, 1925). Within marketing, scholars have explored behavioural primacy in brand decision making (Woodside & Uncles, 2005) as well as primacy effects in service encounters (Garnefeld & Steinhoff, 2013). On social media, we suggest that the presentation order of and the emphasis given to specific fake news' characteristics could play an important role in determining user interactions with a fake news message, specifically likelihood to share information. In this study, we focus on two particular aspects of the fake news: the *source* and the *headline* (Kim and Dennis, 2019).

One of the key characteristics of social media is the difficulty that readers of information have in determining the veracity of information and thus the reliance upon heuristics to evaluate the legitimacy of individual messages (Sundar, 2008). We argue that the *source* of the news is a particularly important variable due to the fundamentally different nature the concept of source has on social media compared to traditional media. With traditional forms of media, the primary basis of selection is a source, where there is first a selection of a newspaper or magazine title, website or TV channel before an article is selected (Kim, Moravec & Dennis, 2019). On social media, the source of material is typically disintermediated from the content, and information is made visible based on an algorithmically driven basis, linking through an individual's social graph or interests (Quattrociocchi, Scala & Sunstein, 2016). Sharers of information who are seeking to generate a social response to their messages understand the key role that headlines have in gaining the attention of users. In turn, this attention increases the likelihood that posts will be interacted with and appear in a news feed (Gu, Kropotov, & Yarochkin, 2017). This 'Headline-primacy world' (Kim & Dennis, 2019) means that initial evaluations have more influence on the trust in the information than its source. Kim and Dennis (2019) have demonstrated that highlighting the source

of an article increases message believability regardless of the source's credibility and rating. Based on the above, we suggest that if the norms of social media are altered and the message source is given primacy, mirroring the traditional media format, this will significantly reduce information sharing than where the headline has primacy (Kim and Dennis, 2019). Formally:

H1: The presentation format of fake news on social media influences fake news sharing such that source-primacy (vs headline-primacy) format decreases sharing behaviour.

8.3.2 Legitimation & trust in information

Creators of misinformation contents can use different techniques to fabricate legitimacy to gain credibility (Di Domenico et al., 2021). Firstly, the creators tend to adopt websites names that recall legitimate sources of news (for example, USAToday.com.co; NationalReport.net and WashingtonPost.com.co (Allcott & Gentzkow, 2017). In addition, those websites are designed to mimic official news sources in terms of page layout, colours and fonts used (Lazer et al., 2018; Rini, 2017). Secondly, also the headlines and sub-headlines are written in a journalistic style to appear more credible (Allcott & Gentzkow, 2017). Thirdly, legitimacy is evoked through the narration of the story. During the narration, so-called "Pseudo-experts" present their arguments making false claims, seeking legitimacy by falsely pretending to be an expert and/or defending their arguments with misleading and deceptive evidence (Sorial, 2017).

Legitimacy is not a stand-alone variable, it is auxiliary to other processes. In social media settings, the ability of a social media user to provide legitimate information was found to be a predictor of trust (Chari et al., 2016). Trust is "the willingness to be vulnerable to the actions of another based on the expectation that the other will perform a particular action important to the trustor" (Mayer, Davis & Schoorman, 1995, p.712) and it has been identified as one of the most important factors

in online environments (Foher & Germelmann, 2020). Due to the absence of physical elements, users in online contexts may feel more vulnerable (Lu, Fan & Zhou, 2016). Therefore, the development of trust-building mechanisms in social media relationships may decrease perceived risks and uncertainty (Hong & Cha, 2013) and, by eliminating opportunistic behaviours, generate an atmosphere that allows members of a community to interact openly (Shin, 2013). Consequently, heightened trust facilitates information sharing and exchange in social media (Chu & Kim, 2011). Credibility is one of the main dimensions of trust, referring to the belief that the interlocutor is reliable (Ba & Pavlou, 2002).

In this vein, the presentation format of the fake news could help in providing heuristic cues to assess the credibility of the content shared. Previous studies showed that individuals are more likely to trust messages when the source of the information is regarded as reputable (Tormala et al., 2007). Moreover, exposure to fake news was found to lead to a profound mistrust of fake news sources (Kwon & Barone, 2020). Therefore, we argue that, in source-primacy format, where information about the (illegitimate) source of false information is made prominent, social media users will perceive less trust in the information shared, which, in turn, will lower their willingness to share. Stated formally:

H2: Trust in the fake news message mediates the relationship between fake news presentation format and fake news sharing, such that source-primacy (vs headline -primacy) format reduces trust in the message that, in turn, reduces sharing.

8.3.3 Deceptive intent of the source

Deception is defined as a message knowingly transmitted by a sender to foster a false belief or conclusion by the receiver (Ekman, 1997). It occurs when communicators control the information

contained in their messages to convey meanings that are different from the truth (Buller & Burgoon, 1996). Lying is part of everyday life (DePaulo et al., 1996) and often the motivations underlying deception are social, finalized at enhancing the self in the eyes of others (Kashy & DePaulo, 1996). In the case of fake news financial motivations come at play in eliciting the creation and dissemination of lies (Braun & Eklund, 2019). The evaluation of whether a piece of information is true or false is not an easy task. Previous literature shows that in the absence of special training, individuals' accuracy in detecting deception is low (Kraut, 1980; Vrij, 2000) and that they are more accurate in judging audible than visible lies (Bond & DePaulo, 2006). Thus, identifying lies (and liars) on social media becomes an even harder task, requiring social media users to adopt heuristic cues to evaluate the deceptive intent of the information source. Some linguistic cues were proven to be effective in deception detection in social media (Toma & Hancock, 2012). However, often social media users rely on authority heuristics to assess the credibility of the source (Sundar, 2008) and, in turn, perceive deception (Jensen et al., 2010). The more an individual assesses the source to be credible, the less the individual is likely to detect deception (Marett & George, 2004). We argue that, when primacy is placed on the (illegitimate) source, social media users will be more able to assess the credibility of sources of information, and will perceive a greater deceptive intent of the deceptive sources. This, in turn, will lower the willingness to share the information. Formally:

H3: Perception of the deceptive intent of the source mediates the relationship between fake news presentation format and fake news sharing, such that source-primacy (vs headline -primacy) format increases perceptions of the deceptive intent of the source that, in turn, reduces sharing behaviour.

8.3.4 Who shares the information?

As mentioned earlier, credibility assessments of information are usually dependent by evaluations of the credibility of the source of such information. On social media, the role of the user who *shares* the information is an important heuristic in determining engagement with (Giakoumaki & Krepapa, 2020) and credibility of the shared information, as it could be psychologically perceived itself as the real source (Sundar, 2008). In this regard, we examine the role of the strength of the relationship between the sharer and the receiver of the information in fake news sharing behaviour.

Tie strength is defined as "*the potency of the bond between members of a network*" (Granovetter, 1973). These bonds can be classified in terms of strong and weak ties depending on the importance attached to the relationship (Ibarra, 1997), the frequency of social contacts (Nelson, 1989) and the level of intimacy and reciprocity between two individuals (Granovetter, 1973). Consequently, strong ties involve higher levels of closeness, reciprocity and emotional involvement than weak ties (Granovetter, 1973; Mardsen & Campbell, 1984). Tie strength affects different marketing outcomes from services evaluation (Mittal et al., 2008) to inter-organizational alliances (Rindfleisch & Moorman, 2001). However, most of the research on tie strength concerns information propagation dynamics (Granovetter, 1973; Burt, 1987).

The strength of weak ties in facilitating information flow was first demonstrated by Granovetter (1973) in the context of employment opportunities. Weak ties were also found to be more effective in increasing WOM referrals by allowing broader information dissemination (Brown & Reingen, 1987). Moreover, previous studies demonstrate the power of weak ties in driving sales (Godes & Mayzlin, 2009), due to more accurate quality inferences that consumers can make based on information from weak ties (Zhang et al., 2015).

On the other hand, strong ties are more influential than weak ties (Brown & Reingen, 1987) especially in later stages of product adoption (Hu et al., 2019). This is because while weak ties facilitate the dissemination of information in terms of volume (Frenzen & Nakamoto, 1993), strong ties convey the transfer of more useful information for the receiver (Levin & Cross, 2004). Thus, strong ties are influential in raising awareness about products (De Bruyn & Lilien, 2008) and strong-tie communications on social media are positively associated with product attitudes and intentions to purchase (Wang, Yu & Wei, 2012). The more influential nature of strong ties is conveyed by higher credibility and trustworthiness than for weak ties (Rogers, 1995). This is because, in assessing trustworthiness, individuals take into account past experiences with others (Rotter, 1980), their perceived benevolence (Mayer et al., 1995) and the emotional ties between them (McAllister, 1995). Therefore, strong ties are generally associated with more trust than weak ties (Coleman, 1990).

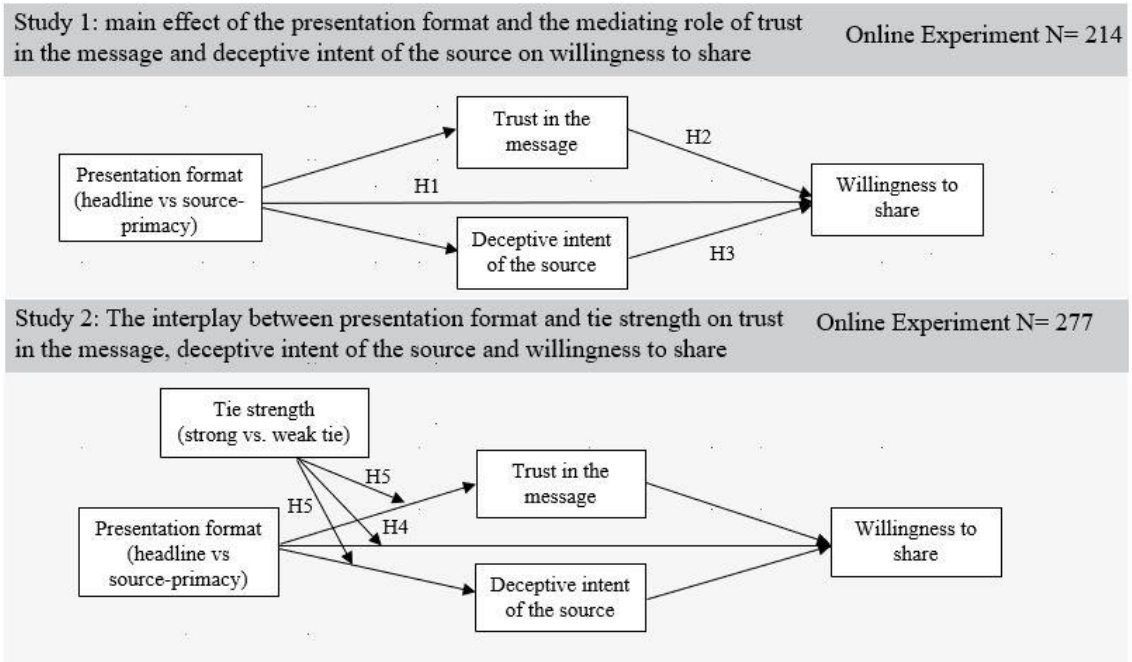
Based on the above, there is an expectation that users process information less accurately when a message is shared by a strong tie rather than a weak tie. In this sense, it can be assumed that the interpersonal tie strength is a stronger heuristic in determining how users engage with shared content. Drawing on the above, potential changes in the presentation format of fake news could be less effective in a strong-tie condition. Specifically, we propose that while the effect of source-primacy format on users' willingness to share fake news will persist when the content is shared by a weak tie, this effect will disappear for a strong tie. Moreover, we expect that the effect will be mediated by trust in the message and perceptions of deceptive intent of the source. Formally,

H4: The interpersonal tie strength between the sharer and the receiver moderates the effect of fake news presentation format on fake news sharing such that source-primacy (vs headline-primacy) format decreases sharing behaviour only when the fake news is shared by a weak (vs strong) tie.

H5: Trust in the message and perceived deceptive intent mediates the effect of the interpersonal tie strength on fake news sharing when the fake news is presented in the source-primacy (vs headline-primacy) format.

Figure 6.8 shows the overarching framework of the present study. We argue that fake news presented in a source-primacy (vs. headline-primacy) format on social media decreases users' sharing behaviour by reducing trust in the message and enhancing perceptions of deceptive intent (Study 1). We further suggest that this effect will only persist when the fake news is shared by a weak (vs. strong) interpersonal tie (Study 2).

Figure 6.8: *Overarching framework of Paper 3*



8.4 Study 1: effect of presentation format on WTS

Study 1 aims to test whether placing primacy on the source (vs headline) of a fake news post on social media decreases consumers' willingness to share the post (H1). Furthermore, it investigates the mediating role of trust in the fake news message (H2) and perceptions of deceptive intent of the source (H3).

8.4.1 Experimental stimuli and pretesting

Being recognized as a leading social media site with almost 2.5 billion monthly active users in 2019 (Statista, 2020), Facebook was chosen as the context of our investigation. Two versions of a mock Facebook post containing misinformation were created as the experimental stimuli. We tested our stimuli and manipulations in a set of pre-tests.

First, we pretested the credibility of the fake news headline. To create our stimuli, we invented a plausible source name (Portal24hs.com) and verified it to be inactive before the experiment, and three plausible headlines mimicking the fake news style of writing (Allcott & Gentzkow, 2017; Lazer et al., 2018). To avoid consumer bias towards political topics, we created the headlines around three relatable business topics (i.e. fast-food chains, shoes and smartphone manufacturers). They were then tested for credibility with 52 participants recruited from the Amazon Mechanical Turk online panel (male 57.7%; M_{age} = 38.87, SD = 11.64). Participants were pre-screened on the criterion of having an active Facebook account. This screening criterion has been applied for all the further pre-tests and main studies. Not mentioning any company name, the headlines read: *"BREAKING: Video shows rats running inside a famous fast-food chain.", "BREAKING: increase of explosions of phones made by a famous manufacturer"* and *"BREAKING: chemicals-made shoes catch on fire".* During the pre-test, participants initially viewed the three headlines in random order and then scored their credibility on a three-items semantic differential 7-points Likert

scale (*Unbelievable/Believable; Not credible/Credible; Not convincing/Convincing*) (McCroskey & Teven, 2007). Descriptive statistics indicated (Table 8) that the second headline (i.e. *"BREAKING: increase of explosions of phones made by a famous manufacturer*) scored the highest perceived credibility (M = 4.34, SD = 1.92). Thus, it was employed in our stimuli.

Table 8*: Credibility mean scores of headlines tested in Pre-test 1*

	N	Mean	SD	Cronbach's Alpha
Headline 1	52	4.20	1.85	.910
Headline 2	52	4.33	1.93	.912
Headline 3	52	4.29	1.82	.939

The manipulation of the independent variable (i.e. source-primacy vs. headline-primacy format) was successively tested in a second pre-test. We developed our stimuli to either place primacy on the headline of the message or the source. While the stimuli for the headline-primacy condition were designed to emulate the Facebook style of presentation where the design highlights the headlines and de-emphasize the source, the stimuli for the source-primacy condition were different in that the source of the information preceded the message. Stimuli are available in Appendix 1.

The second pre-test involved 30 participants recruited from the Amazon MTurk online panel (male 56.7%; age: M_{age} = 39.53, SD = 13.12). Participants were asked to rate each of the two stimuli on a 7-points Likert scale whether they noticed the headline or the source of the post first (e.g. "*The source of the Facebook post was the first thing I noticed"*). Descriptive statistics (Table 9) indicated stimulus 2 as the most evident source primacy and thus we adopted it for the subsequent online experiment.

Table 9*: Primacy mean scores for source and headline presentation format in Pre-test 2*

	N	Presentation Format	
		Source-Primacy	**Headline-Primacy**
Stimulus 1	30	4.63	4.93
Stimulus 2	30	5.20	4.67

8.4.2 Procedures and measures

A total of 214 participants (male 49.8%; M_{age} = 40.58, SD = 12.86) were recruited from Amazon Mechanical Turk online panel and randomly assigned to one of the two experimental conditions.

As in the second pre-test, we manipulated the Facebook post by giving primacy to either the headline of the message or the source. The presentation of the scenario was the same across the two conditions and it read: '*Imagine you are at home and you are scrolling your Facebook page in your free time. At some point, you come across a posted news. The news' title states* "*BREAKING: increase of explosions of phones made by famous manufacturer". Please, take a look at the Facebook post and pay attention to its headline and source. The post shared looks like this:".* As a manipulation check, participants were asked to indicate which information's characteristic between headline and source was presented first. Next, they rated their willingness to share the news (α =.93; Pennycook et al., 2020), which served as our dependent variable. Afterwards, we measured the perceived deceptive intent of the source (α =.95; MacCornack et al., 1992) and the trust in the message (α =.93; Pan & Chiou, 2011). Finally, respondents rated their degree of personal involvement (α =.84; Jimenez & Gammoh, 2020) and familiarity with the topic of the news (α =.87; Pennycook & Rand, 2020) as controlled variables. Items for these variables are presented in the Appendix 1. Finally, respondents answered to demographics questions (age and gender).

The original experimental design of Study 1 included also a second manipulation aimed at testing two types of fake news sharers, that was 'real name' (i.e. John Smith) vs. 'anonymous sharer' (i.e. User90922). This manipulation was later suppressed due to its inability to affect the other tested variables. Specifically, as it did not provide participants with information on the strength of the interpersonal relationship with the fake news sharer, all the stimuli for Study 1 resembled the 'weak ties' condition that has been manipulated and tested in Study 2. In this first study, we thus focused on the 'source vs headline' primacy manipulation. The Stimuli for the suppressed manipulation can be found in the Appendix 1.

8.4.3. Results

First, we checked our manipulations. As expected participants in the source-primacy condition identified the source as the first presented information, while the opposite occurred in the headline-primacy condition (Wald $\chi 2$ (1, 213) =21.849; p<.001)

A one-way ANOVA was performed to test the direct effect of source-primacy vs headline-primacy format on willingness to share. The results show that participants in the source-primacy condition expressed a lower willingness to share (M_{sp}= 2.91) than their counterparts in the headline-primacy condition (M_{sp}= 3.65) so that source-primacy format has a significant negative effect on the willingness to share (F(1,213)= 5.99; p= .01). Moreover, there were no differences in personal involvement (M_{sp}= 3.47 versus M_{hp}= 3.26; F(1,213)= .445; p= .44) or familiarity with the topic (M_{sp}= 2.99 versus M_{hp}= 2.93; F(1,213)= .360; p=.54) across conditions. Therefore, H1 is supported.

To test whether trust in the message and deceptive intent of the source mediate the effect of presentation format on willingness to share, we performed a mediation analysis employing the

Hayes (Hayes, 2021) PROCESS Macro Model 4 with 10,000 bootstrapped samples. In the model, presentation format (source-primacy vs. headline-primacy) served as the independent variable, trust and deceptive intent of the source as mediating variables, and willingness to share as the dependent variable. Headline-primacy was coded as 0, source- primacy as 1. Results reveal that the presentation format had a significant effect on consumers' trust in the message (b = -.89; $p < 0.05$; CI 95% [-1.37, -.40]), which, in turn, has a significant effect on willingness to share (b = -.67; $p < 0.01$; CI 95% [.50 .84]). Consistently, presentation format significantly influenced consumers' perceived deceptive intent of the source (b = .78; $p < 0.05$; CI 95% [.1.26, .31]), decreasing their willingness to share (b = -.35; $p < 0.01$; CI 95% [-.52, -.17]). Moreover, the information format is no longer a predictor of willingness to share when controlling for the mediators (b=.13; p=.47; CI 95% [-.22, .48]), which indicates a fully mediated model. Overall, these results reveal that when primacy is placed on the source, trust in the message decreases, the deceptive intent of the source increases and, in turn, consumers' willingness to share is reduced. Thus, H2 and H3 are supported.

8.5 Study 2: the moderating role of tie strength

Study 2 aims to investigate the moderating role of the interpersonal tie strength and it tests whether the relationship strength between the sharer and the receiver of a fake news post influences the receiver's willingness to share.

8.5.1 Experimental stimuli and pretesting

Following on from the previous study, we created two different versions of a mock fake news Facebook post as stimuli.

To improve the validity of our results and increase the accuracy of a fake news style, we created a new plausible source name. The process involved pre-testing two potential new sources, 4FUNBZ.COM.CO and BLOG.THETRUTH.ORG, for credibility with 82 participants recruited on Amazon MTurk (male 50.7%; M_{age} = 39.56, SD = 11.75). Descriptive statistics revealed that the second name, BLOG.THETRUTH.ORG, scored higher in perceived credibility (M= 2.49, SD=1.01), thus it was employed in our stimuli.

In terms of headlines, we used the second most credible headline from our previous pretest (see Table 1). Examples of our stimuli are available in the Appendix 1.

8.5.2 Procedures and measures

Two hundred and seventy-seven participants were recruited on Amazon MTurk (male 50.1%; M_{age} = 40.66, SD = 12.84) and randomly assigned to conditions in a 2 (presentation format: source-primacy vs. headline-primacy) x 2 (tie strength: strong vs. weak) between-subjects design.

In the experiment, we manipulated both the presentation format and the tie strength. As in the previous study, respondents were told to imagine they were scrolling their personal Facebook feed and came across the posted news. To manipulate the strength of the interpersonal relationship, we followed previous studies and prompted individuals to identify real social network connections (Zhang, Feick and Mittal, 2014). The prompt in the strong tie condition read: "*Imagine that you accidentally meet X, your closest friend. Please write down the name of this person here* ____."; while in the weak tie the condition read: "*Imagine that you accidentally meet X, a casual acquaintance of yours, that is someone you interact with from time to time, but not close enough to count as a friend. Please write down the name of this person here* _____." The scenarios then reinforced the manipulation such that participants in the strong tie condition read "*You and your*

friend have a little conversation and then you go back home. After a while, you decide to have a look at your Facebook Feed. When you open Facebook, you notice that your friend has shared a post. You and your friend are very close: you often interact on Facebook, you have several mutual friends and you are tagged together in many pics. The news' title that your friend shared states "BREAKING: chemicals-made shoes catch on fire" Please, take a look at the Facebook post and pay attention to its headline and source. The post shared looks like this:"; while participants in the weak tie condition read: "*You and your acquaintance have a little conversation and then you go back home. After a while, you decide to have a look at your Facebook Feed. When you open Facebook, you notice that the acquaintance has shared a post. You and this acquaintance do not interact on Facebook and you do not have many mutual friends. The news' title that your acquaintance shared states "BREAKING: chemicals-made shoes catch on fire". Please, take a look at the Facebook post and pay attention to its headline and source. The post shared looks like this:*".

The post format was manipulated as in Study 1 by either placing primacy on the source or the headline of the posted news.

A 3-item scale was used as a manipulation check of tie strength (α =.93; Mittal, Huppertz and Khare, 2008). Participants were then asked to indicate which information characteristic was presented first between the source and the headline, which served as a manipulation check of the presentation format. Next, respondents were asked to rate their willingness to share (α =.78; Hayes and King, 2014), the trust in the message (α =.94; Bart et al., 2005), and the perceived deceptive intent of the source (α =.89; MacCornack et al., 1992). Finally, we measure the degree of personal involvement (α =.94; Jimenez & Gammoh, 2020) and familiarity with the topic of the news (α

=.93; Pennycook & Rand, 2019) as control variables. Finally, participants answered two demographics questions (age and gender).

8.5.3 Results

An analysis of variance (ANOVA) for the tie strength manipulation revealed that participants in the strong tie condition rated the relationship with the person who shares the post as stronger compared to the weak tie condition (M_{st}=5.33, SD=1.7 vs. M_{wt}=2.52, SD=1.1; p=.000). Further, a binary logistic regression confirmed that respondents identified the correct information characteristics (source vs headline primacy) (Wald $\chi 2$ (1, 277)=5.45; p<.05). Thus, the manipulations were effective.

To test our hypotheses, we performed a two-way ANOVA where presentation format (source-primacy vs. headline-primacy) served as the independent variable, tie strength (strong vs. weak) as the moderator, and willingness to share as the dependent variable. We controlled for personal involvement and familiarity (Kim & Dennis, 2019).

The results show a significant main effect of the presentation format on willingness to share (F [1,276]=44.87; p<.005) meaning that respondents were less likely to share the post in the source-primacy condition (M_{sp}=1.86, SD=1.09 vs. M_{hp}=2.98, SD=1.2) than in the headline condition, while the direct effect of tie strength on sharing behaviour is not significant (p=.2). More importantly, a two-way ANOVA reveals a marginally significant interaction effect (F [1,274]= 12.56; p= .06) between the presentation format and the tie strength. Follow-up planned contrasts (Table 10) support our H4 as respondents were less likely to share the fake news post when a source-primacy format was shared by a weak tie (M_{sp}= 1.7; F=5.21; p<.05), while no effect was found when the same post was shared by a strong tie (M_{sp}=2.02; F=.86; *ns*).

Table 10: *ANOVA results of tie strength and presentation format conditions on willingness to share (WTS)*

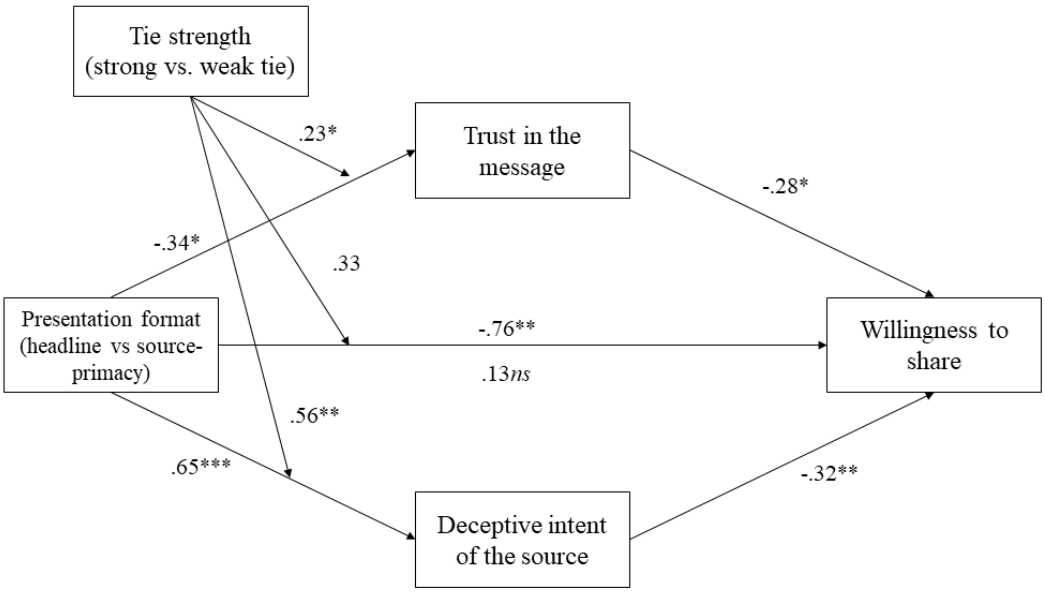
Tie Strength	Presentation Format	WTS Mean	Effect		95% Confidence Interval	
			F	***p***	**Lower Bound**	**Upper Bound**
Weak	Headline Primacy	2.18	5.21	0.23	1.92	2.43
	Source-primacy	1.75		0.23	1.48	2.01
Strong	Headline Primacy	1.98	.864	0.82	1.72	2.23
	Source-primacy	2.02		0.82	1.75	2.28

To test the relationship between presentation format and tie strength on trust in the message and perceived deceptive intent, we performed a two-way ANOVA with each mediator. Weak tie condition was coded as 0, strong tie as 1. Results reveals a marginally significant interaction effect on trust (F [1,274]= 3.78; p= .06) and a full significant interaction effect on deceptive intent (F [1,274]= 4.65; p= .03). Specifically, we found that when the fake news post is shared by a weak tie, source-primacy format reduces trust in the message (M_{sp}= 1.7 vs M_{hp}= 2.2; F=7.31; p<.01) and increases perceived deceptive intent of the source (M_{sp}= 5.7 vs M_{hp}= 5.0; F=9.42; p<.00), but these effects do not persist when the post is shared by a strong tie (trust p=.27, deceptive intent p =.64).

Next, we tested the mediating role of trust in the message and perceived deception intent of the source in the relationship between presentation format and tie strength using a moderated mediation model (PROCESS Macro Model 8, bootstrapped 10.000; Hayes, 2021). The results reveal that when the fake news post is shared by a weak tie, source-primacy format decreases willingness to share through trust (b= -.16, C.I. 95% [-.18, -.06]) and increases perceived deception

intent (*b*=.24, C.I. 95% [.04, .31]), while these relationships do not persist when the fake news is shared by a strong tie. Thus, H5 is confirmed. Figure 7.8 shows the coefficients of the effects of the variables in our model.

Figure 7.8: *Model of Presentation format and Willingness to share the news*



*Notes: ***p<.001; **p<.01; *p<.05*

8.6 Discussion and Conclusion

Finding effective ways to address the spread of misinformation on social media is one of the key contemporary challenges facing social media firms. This challenge is heightened by the need for techniques to achieve this to comply with users and public norms of free speech, limiting the scope for blanket deletion of content. Across two studies, we show that the presentation format of fake news messages influences user trust in messages, perception of deceptive intent of the source, and subsequently likelihood to share. We further uncover an important boundary condition on the impact of the interpersonal tie strength on willingness to share. Specifically, Study 1 demonstrates that fake news messages presented in a source-primacy format reduce users' willingness to share

via decreased trust in the message and increased perceptions of deceptive intent of the source. Study 2 shows that the effect of source-primacy format is effective in decreasing sharing behaviour but it is conditioned by the weak tie between the sharer and the receiver of fake news.

The research has important theoretical and practical implications. First, the findings shed light on the role of the primacy effect of altering the order of source and headline information upon users' likelihood to share. This is consistent with previous studies suggesting that the primacy effect can have a significant impact on how information is interpreted (Kim & Dennis, 2019) and acted upon (Tormala, Brinol & Petty, 2007). While Kim and Dennis (2019) found source-primacy messages increasing believability, we show that not only the presentation format influences the credibility of the message but also directly affects sharing behaviour.

Second, findings from this research enrich the literature on fake news (Talwar, 2019; Visentin et al., 2019) and primacy-effects (Kim & Dennis, 2019) by unveiling two psychological mechanisms that explain the sharing of misinformation. Previous studies have mainly focused on confirmation bias (Quattrociocchi, Scala & Sunstein, 2016) and prior exposure (Pennycook & Rand, 2019) as drivers of fake news believability, and believability as a driver of sharing. This study extends this literature and, by adopting a broader perspective, identifies trust in the message and perceptions of deceptive intent in the source as the factors that explain the decrease of misinformation sharing.

Third, this study complements and extends previous research on primacy effects (Kim & Dennis, 2019) by identifying the strength of the interpersonal bond between the person who shares the fake news and the receiver as a relevant boundary condition on the impact of presentation format on the sharing behaviour. Specifically, we show that the source primacy approach is effective in decreasing willingness to share and increasing the perceived deceptive intent of the source only for weak tie connections. As social media users' weak ties outnumber strong ties (De Meo et al.,

2014), giving primacy to the source of a fake content may serve as an effective strategy to limit the spread of misinformation.

This study also provides several practical implications. First, it offers practitioners insights into the role of fake news presentation format on consumers' sharing behaviour. Specifically, results of this research demonstrate that changing the way news is presented (i.e. presenting source information before headline information) can enhance the capabilities of social media users to detect misleading sources, thus reducing the spread of misinformation through social media platforms. Second, findings from this study can benefit social media companies to the management of fake news sharing and freedom of speech. Rather than requiring social media companies to be proactive in removing contents, which can bring accusations of censorship, our results provide guidance on the use of presentation formats that can limit the spreading of fake news without affecting users' freedom of expression.

8.7 Limitations and future directions for research

Despite the important contributions of this study, results must be interpreted considering their limitations. By exposing respondents to a fictional Facebook news' feed containing only one post, the treatment situation could be considered artificial. Further research should validate these findings in more real-world settings. Although manipulating presentation format in live social media settings is challenging, there are new promising approaches to social media experimental research that could be effective in replicating social media settings (for example, see: Jagayat & Choma, 2020). Additionally, while we analysed the interplay of presentation format and tie strength on sharing behaviour, other factors influencing fake news believability such as prior exposure were not examined. Further research can explore these relationships and investigate

whether the effect of source-primacy on fake news sharing persists when users have been already exposed to the fake news content.

In light of a social influence perspective (Mittal, Huppertz & Khare, 2008), further research could consider the effect of social media feedback mechanisms such as the number of likes (Sundar, 2008), the number and valence of comments (Vinuales & Thomas, 2020), or the number of shares that a misinformation post receives. Finally, as spreading misinformation is a widespread problem across other social media platforms, such as Twitter (Grinberg et al., 2019), future research should confirm the effect of source primacy across different social media contexts and platforms.

9. Research Objective 4 continues with Paper 4

The last paper included in the dissertation uncovers the legitimization processes of a particular, and perhaps the most dangerous, form of misinformation, namely vaccine misinformation. This paper investigates the legitimization processes of vaccine misinformation *within* and *across* two digital platforms, online marketplaces and social media. Specifically, the paper analyses how vaccine misinformation in the form of books sold in online marketplaces gets legitimised on these platforms first, and then gets spread (and even more legitimised) on social media. The paper adopts a mixed-method approach to the study of the phenomenon. Firstly, a content analysis performed on the Amazon's descriptions of vaccine misinformation books and the relative Facebook posts identifies the different levels of legitimacy of misinformation. Then, two online experiments empirically test the findings of the qualitative phase, finding that expert cues (conveying expert legitimacy) increase legitimacy perceptions of misinformation books in online marketplaces, especially for individuals with low levels of vaccine hesitancy (i.e. vaccine supporters). Moreover, this increased perception of legitimacy is conducive to social media sharing. Interestingly, this effect holds only for misinformation contents and for factual ones. This last paper concludes providing relevant and actionable insights to policy makers about how to de-legitimise vaccine misinformation contents and limit their spreading on social media.

10.Paper 4: “Marketplaces of misinformation: a study of how vaccine misinformation is legitimized on social media”

Giandomenico Di Domenico

Daniel Nunan

Valentina Pitardi

Combating harmful misinformation about pharmaceuticals spread through social media is a growing challenge. The complexity of health information, the role of expert intermediaries in disseminating information, and the information dynamics of social media create an environment where harmful misinformation spreads rapidly. However, little is known about the origin of this misinformation. This paper explores the processes through which health misinformation from online marketplaces, is legitimatized and spread. Specifically, across one content analysis and two experimental studies, we investigate the role of highly legitimized 'influencer' content in spreading vaccine misinformation. By analyzing a dataset of social media posts and the websites where this content originates, we identify the legitimation processes that spread and normalize discussions around vaccine hesitancy (Study 1). Study 2 shows that expert cues increase perceived legitimacy of misinformation, particularly for individuals who have generally positive attitudes toward vaccines. Study 3 demonstrates the role of expert legitimacy in driving consumers’ sharing behavior on social media. This paper addresses a gap in our understanding of how pharmaceutical misinformation originates and becomes legitimized. Given the importance of the effective communication of vaccine information, the authors present key challenges for policy makers.

10.1 Introduction

In knowledge societies, individuals are required to effectively navigate a web of complex health systems and information to make the right decisions about their health (WHO, 2013). Health professionals' ability to effectively communicate accurate information increasingly takes place in an ‘information marketplace’ where legitimate health information sources come up against a growing tide of misinformation (Scott et al. 2020). While misinformation touches on almost all healthcare areas, the most high-profile contemporary manifestation is misinformation about vaccines (Cornwall 2020). The COVID-19 pandemic has had a significant impact on the global pharmaceutical industry (Sarkees, Fitzgerald, and Lamberton 2020). Nevertheless, even before COVID-19, social media's role in spreading vaccine misinformation was recognized as a major public health challenge (Lahouati 2020), with increased skepticism towards traditional modes of health communication (Smith and Reiss 2020). This has led to awareness amongst pharmaceutical companies of the need to address these deficits in health literacy and tackle the ‘infodemic’ of misinformation (Tyler 2021). Despite attempts by social media firms to tackle vaccine misinformation (Cellan-Jones 2020) it has become endemic, with estimates that more than 100 million Facebook users have been exposed to some form of it (Johnson et al. 2020). The filter bubbles created by social media's private spaces have brought together misinformation and groups linked by institutional distrust (Jamison et al. 2020; Smith et al. 2020). Whilst there is a growing body of research on how vaccine misinformation spreads through social media (e.g. Lahouati et al. 2020; Jamison et al. 2020; Featherstone et al. 2020), there is a gap in our understanding of how it starts and how it is legitimized.

Healthcare professionals play an important role in the validation of health information as individuals rely on these experts to interpret complex information, and place a high level of trust

in these professionals (Burki 2019). Much popular online health content is written by health professionals who have the characteristics of 'influencers' (Ngai, Singh and Lu 2020), building a substantial social media audience over which they hold an influence through leveraging their credentials (De Veirman, Cauberghe and Hudders 2017). Just as influencers play a key role in generating engagement on social media, the rise in self-publishing of books through marketplaces such as Amazon, gives individuals who can generate legitimacy the ability to spread misinformation. Despite the wide availability of free online content, books are still perceived by consumers as a source of credible in-depth expert knowledge (Perrin 2016). When this content reaches social media, reach is substantially magnified, feeding into the complex digital information environment where individuals increasingly look for information to make health-related decisions (Guess et al., 2020; Ashfield and Donnelle 2020).

Despite increasing academic interest in the spread of vaccine misinformation on social media, there is limited research into the origins of this misinformation and its legitimization processes (Table 11).

Table 11: *Key contributions on social media and vaccine misinformation*

Authors	**Method**	**Context**	**Key theories/constructs**	**Main findings**
Broniatowski et al. (2020)	Regression analysis	Social media (Facebook)	Vaccine misinformation framing	Facebook pages frame vaccine opposition so that vaccine choice is mainly framed as civil liberty. The pages categories range from alternative medicine to conspiracy theories to alternative medicine.

Dhaliwal and Mannion (2020)	Social media audit	Social media (Facebook)	N/a	Vaccines are blamed for autism, cancer and infertility on the analysed Facebook pages. Some messages spread prevailing myths about the safety and consequences of vaccines, likely contributing to parents' vaccine hesitancy.
Featherstone et al., 2020	Semantic network and sentiment analysis	Social media (Twitter)	Social Capital and Information Diffusion	The anti-vaccine community is well-connected with influential users spreading misinformation. Negative sentiment dominates pro- and anti-vaccine communities.
Jamison et al., 2020	Content analysis	Social media (Twitter)	N/a	35.4% of the analyzed 2,000 Twitter accounts (80,000 tweets) are vaccine opponents
Lahouati et al., 2020	Content analysis	Social media (YouTube)	Engagement	Vaccine misinformation videos produce more engagement and contain more topics than pro-vaccine.
Massey et al., 2020	Content analysis	Social media (Instagram)	Social media Networks	Antivaccine posts are more likely to include personal narratives, conspiracy theories and unsubstantiated claims about side effects of vaccines.
Shin and Valente, 2020	Algorithm audit	Online Marketplace (Amazon)	Gatekeeping algorithms	Algorithmic logics blindly promote contents on Amazon. The three most recommended books are vaccine hesitant.

Current paper	Mixed-method (content analysis + experimental design)	Online marketplace (Amazon) + Social media (Facebook)	Legitimacy Theory	The legitimization of vaccine misinformation occurs across digital platforms, from marketplaces to social media. We identify two new dimensions of legitimacy (i.e. expert and algorithmic) and test the impact of cues conveying expert legitimacy on social media sharing behaviour.

This paper addresses this gap and explores how highly legitimized 'influencer' material available through online marketplaces, in the form of books, enables the spread of vaccine misinformation. Specifically, we aim to explore how the legitimation processes of vaccine misinformation occur *within* and *between* online marketplaces and social media platforms. In doing this, we identify the specific cues that convey legitimacy and test their effect on the perceptions of the legitimacy of vaccine misinformation. Expertise in healthcare is a complex and multifaceted concept, rich in symbolism and tied to professional logics and regulatory norms. To fully understand this concept, we investigate legitimation processes at a more granular level, addressing the following research questions:

RQ1: How is vaccine misinformation legitimized through online marketplaces and social media platforms?

RQ2: How does the legitimation process develop between online marketplaces and social media?

RQ3: What kind of cues confer legitimacy to vaccine misinformation?

To answer these questions, this paper adopts a mixed-methods approach exploring the processes through which vaccine misinformation is legitimized and spreads from online marketplaces to social media. Using a large dataset of Facebook posts and Amazon book descriptions, we analyze the role of influencer sources in seeding misinformation. The findings of this qualitative phase are empirically tested through two online experiments, where we analyze the effect of specific cues on the perceived legitimacy of vaccine misinformation and consumers' sharing behavior on social media.

This paper makes several contributions. First, we believe it is the first study to explore the origins of vaccine misinformation and to identify how such harmful health misinformation is legitimized. We identify two novel legitimacy dimensions (expert and algorithmic legitimacy) that shed light on the overall legitimation process of vaccine misinformation. Second, we add to the literature on misinformation sharing by identifying the cues that confer legitimacy to vaccine misinformation and evaluating their impact on sharing behavior. Moreover, we find that the legitimizing effect of expert cues is stronger for individuals with low levels of vaccine hesitancy and holds only for misinformation books. Finally, we discuss potential policy and marketing interventions to mitigate the impact and spreading of vaccine misinformation as well as how the misinformation processes described in this paper apply across a wide range of pharmaceutical products.

The remainder of the paper is structured as follows. We firstly review the literature about health misinformation, social media and legitimacy and introduce Study 1, the content analysis. The next section features the hypotheses development and the description of the experimental Studies 2 and 3. Finally, we provide a general discussion of the paper and implication for both theory and policy makers.

10.2 Theoretical Background

10.2.1 Health Misinformation And Social Media

Social media has moved a long way from its original focus as a platform for social interactions to become a key platform for disseminating news and factual information (Tandoc, Lim, and Ling 2018). Alongside this, there have been widespread concerns around the spread of misinformation through platforms where algorithmic biases mediate and influence the promotion of content (Cinelli et al. 2020). This polarizes users around specific narratives and fuels the spread of misinformation (Del Vicario et al. 2019).

Health information is a key use case for online information searches and a major source of social media content (Fernández-Luque and Bau 2015). However, health information is complex and requires a high level of information processing capability to interpret correctly. For instance, research in pharmaceutical advertising, particularly in advertising direct-to-consumer OTC medication (Byrne et al. 2013), showed that the range of often conflicting advice and claims made in consumer-focused pharmaceutical advertising impedes consumer understanding and can be seen as another form of misinformation (Krishna and Thompson 2021). To ensure effective communication, health information is often mediated via health professionals, and a high level of trust in health professionals is key to the effective functioning of health systems. The availability of information online can harm trust in 'official' health information and disintermediate health professionals (Park and Shin 2020). Above all, the consequences of misinterpretation of health information can be serious, requiring widespread efforts by both policy makers and pharmaceutical companies to ensure that accurate information about pharmaceutical products is communicated effectively to consumers.

Pharmaceutical products provide a combination of factors that increase the risks of spreading misinformation via social media. In particular, the high salience of health information creates particular incentives to share misinformation. At its core, the spread of healthcare misinformation occurs because, whilst every patient has access to health information via the internet, few have the capabilities to correctly interpret and evaluate it (Bolton and Yaxley 2017). The nature of expert knowledge in health is that this knowledge may only be comprehensible to other trained health professionals (Lian and Laing 2004). Online information consumption, and the direct co-creation of health knowledge through social media interactions, typically occurs in an environment when the expert knowledge is disintermediated. This, combined with the general misinformation environment enabled via social media (Vosoughi, Roy, and Aral 2018), creates an environment in which misinformation can rapidly spread. Identified health misinformation covers the full spectrum of health treatments and public health issues. For example, misinformation about autism, antibiotics, cancer treatments, alcohol use (Chou, Oh, and Klein 2018), the safety of e-cigarettes (Martinez et al. 2018), and Ebola (Jones and Elbagir 2018). However, whilst all forms of health misinformation are potentially harmful, few have the broader societal impact of misinformation about vaccines.

10.2.2 Misinformation and Vaccine Hesitancy

Public health professionals widely accept vaccines as the most effective public health intervention to prevent diseases (Piltch-Loeb and DiClemente 2020). However, despite public health success over several decades in expanding vaccination programs, there have been growing concerns over declining vaccination rates. Explanations for this decline include underestimating the risk of illnesses as their prevalence decreases, difficulties in accessing and distributing vaccines in poorer countries, and a lack of public confidence in vaccines (WHO 2013). Even before the COVID-19

pandemic growing hesitancy towards vaccines and the subsequent behavioral impact was seen as one of the major public health challenges of our time. With COVID-19 the health and economic impacts of a pandemic have been put into stark focus and, with it, the consequences of vaccine misinformation.

Opposition to vaccines, or skepticism over vaccines' efficacy, has existed as long as vaccines have been proposed as a solution for limiting the public health impact of infectious diseases. Protests against compulsory smallpox vaccines in England in the 1830s were promoted by groups who saw it as an attack on individual autonomy (Berman 2020). This historical example has much in common with contemporary vaccine hesitancy. Rejecting vaccines occurs due to social and psychological factors where vaccines serve as a proxy for wider fears over social control (Leask 2020).

The term vaccine hesitancy reflects differing levels of skepticism about vaccines beyond outright refusal. For example, themes identified in COVID-19 vaccine misinformation include harmful intent by governments or pharmaceutical firms, doubt amongst scientists and civil liberties issues (Broniatowski et al., 2020). Embedded in these contradictory messages is the idea of generating a public debate around the effectiveness of vaccines among the public. This framing of misinformation through a discourse of debate and individual choice is aligned with the idea of co-created healthcare and empowering consumers to make appropriate health decisions (Frow, McColl-Kennedy, and Payne 2016).

Social media has transformed the ability of vaccine misinformation to reach a global audience (Johnson et al. 2020). Anti-vaccine movements that were once local are now global in no small part due to vaccine-related content being ideally suited towards spreading through social media. The same dynamics that drive the spread of influence that make social media such a powerful

driver of opinion also disseminate harmful information. Researchers have explored how vaccine misinformation spreads on YouTube (Lahouati et al. 2020), Twitter (Featherstone et al. 2020) and Facebook (Jamison et al. 2020), mostly originating from individuals sharing their personal experiences, conspiracy theories or unsubstantiated claims regarding harmful effects of vaccines (Massey et al., 2020). Even on a platform where vaccine misinformation represents a minority of content, algorithmic biases can propagate this misinformation (Shin and Valente 2020), through the presence of 'filter bubbles' where users are exposed only to ideas that they already agree with (Jamison et al. 2020). Combined with the persuasive influence of these misinformation narratives (Argyris et al., 2020) and the affordances created by digital technologies to spread information widely through, for example, bots (Wawrzuta et al., 2021). This creates the conditions for the massive reach of misinformation on social media.

10.2.3 Legitimation of Expert Information

Meyer and Scott (1983) define legitimacy in terms of the level of cultural support available to an organization. We adopt this definition and consider the legitimacy of misinformation, and the likelihood of sharing this information, to be embedded in the level of cultural support available to the ideas underlying the misinformation. There have been several attempts to identify the dimensions of legitimacy, many of which distinguish between forms of socially determined and symbolic legitimacy and more normative notions of rule-based legitimacy (Zott and Huy 2007). In this paper, our theoretical lens is based upon Suchman's (1995) three dimensions of cognitive, pragmatic and moral legitimacy, reflecting the focus of this study on information rather than organizations. Spreaders of misinformation face a particular 'liability of credibility', limiting access to normative forms of legitimation. Legitimation techniques that make use of symbols can be powerful, providing collective frames of references that are *'anything, event or phenomenon to*

which members attribute meaning in their attempts to comprehend the social fabric in which they are enmeshed' (Brown 1994, p. 862). Recent literature on conceptualizing legitimacy has distinguished between normative and professional legitimacy (Deephouse et al. 2017), capturing the key role that professional identities and cues play in legitimation processes.

Professional identities enable individuals to navigate uncertainty where service quality is hard to evaluate (Lian and Laing 2004). This is particularly true in the case of healthcare, often characterized as the archetype of a profession. However, the notion of professionalism is rapidly changing. Increasingly, an embodied trust in professionals is being replaced by a system where trust becomes enforced through a system of regulatory control (Spendlove 2018). This 'enforceable trust' (Ferlie 2010) has at its core an encoded set of professional regulations that govern concepts of expertise. Activities that undermine the process through which information on health products is legitimatized, can result in increasing misinterpretation of health information.

Recent years have seen an increasing interest in how expert judgments, whether in the media or online reviews, influence consumer decision-making (Clauzel, Delacour, and Liarte 2019). Given the nearly infinite amount of information available online, expert judgments are a way to reduce the cognitive load when consumers make decisions. However, judgments over expertise are themselves based on evaluations of the legitimacy of the material. For those seeking to propagate misinformation, establishing legitimacy for their message is critical (Di Domenico et al. 2020). When it comes to health information, the ability to leverage professional identities marks the boundary between legitimate health advice and informal 'lay' knowledge.

10.3 Method

To identify sources of misinformation from influencers we focused on the US Amazon website. Amazon was chosen as the context of our investigation because it is the most visited e-commerce in the US, with 2.44 billion monthly visits in September 2020 (Sabanoglu 2020). Moreover, the volume of books sold via Amazon in 2020 generated 4.6 billion views and $214 million in revenues (Sabanoglu 2021). Through its market leadership position in both physical and digital book sales, Amazon plays a key role in the dissemination of information. Whilst there have been several studies of misinformation spread through video hosting sites such as YouTube, there have only been a limited number of studies that have recognized Amazon as a source of misinformation (e.g. Shin and Valente 2020). We believe that product search motivation on Amazon will be driven by information seeking based on the need for advice, and expert advice in the case of healthcare. This makes this an appropriate starting point for identifying expert misinformation.

A key methodological issue relates to the determination of what counts as misinformation. In selecting material for inclusion in the analysis in this paper we based our determination on whether the books promoted beliefs based on vaccine-hesitancy. Specifically, we adopted the definitions of the World Health Organization to differentiate between misinformation and correct information about vaccines. Our starting point was the universally accepted point amongst public health professionals that vaccines significantly reduce the risks of infectious diseases (WHO 2013). Information promoting a blanket idea that vaccines are not effective is therefore coded as misinformation. In making this analysis we initially used only meta-data, including the book front and back cover and meta-data made available by the publisher to share on the Amazon sales page. Given that a core selling point of these books is that they promote vaccine hesitancy, it was not a difficult classification issue to allocate each book to the appropriate category.

The data analysis comprises two stages. First, we adopt a qualitative approach to examine how vaccine misinformation is legitimized within and between the two platforms. We analyze a dataset of descriptions of 28 books containing vaccine misinformation on Amazon and 649 Facebook posts linking directly to these books on Amazon. Second, we adopted an experimental approach to empirically test the findings from the previous qualitative study. A total of 870 US consumers participated in this experimental phase, including 3 pre-tests and 2 main experiments.

10.4 Study 1. Establishing Legitimation Of Vaccine Misinformation

To explore how vaccine misinformation is legitimized within and across marketplaces and social media, we adopted a qualitative approach and employed a content analysis technique (Hsieh and Shannon 2005). The study draws on two types of data. First, we collected descriptions of 28 vaccine misinformation books available on the Amazon website. We identified vaccine misinformation available via the Amazon online bookstore through the search protocol below.

We selected the 'Vaccinations' Best Seller category on the US Amazon site. This was selected because of having a high degree of discoverability. For example, when searching for terms such as 'Vaccine Books' or 'Books about Vaccines' these are prominent search results.

Following recommendations from previous studies (Shin and Valente 2020), the top 100 bestselling books of the category were analyzed daily over a period of two weeks, from the 20th November 2020 to the 4th December 2020. As these are algorithmically generated lists which change regularly, any books that were featured in the list at any period over the preceding two weeks were selected for analysis. For each, we reviewed the book title, cover material, and descriptive text that accompanied the book. Given the similarity between the cover and description of some 'anti-vaccine' books and legitimate health services, the first chapter of books had to be

reviewed in some cases to establish which category it would fit into. After eliminating duplicates due to the different formats of the same book, the sample consisted of 63 paperbacks/hardcover books. 28 out of the 63 books identified were classified as vaccine misinformation books.

Then, we focused on the Facebook posts used to share the Amazon links for the selected books. The time frame for the identification of the Facebook posts containing the Amazon link to the books was set from the year of the publication of the book until the 4th of December, 2020. The Facebook posts were identified using the CrowdTangle software. CrowdTangle tracks the public (non-targeted, non-gated) content from influential verified Facebook profiles, Facebook Pages and Facebook Public Groups, accounting for a sample of approximately 2% of all Facebook content. Using this dataset with the Crowdtangle tools, it is possible to assess when something was posted, from which Page or account it was posted, and how many interactions (likes or comments) it earned at any given point in time (CrowdTangle 2020). This tool has been increasingly adopted in social media research, particularly in assessing the spreading of health (Ayers et al. 2021) and political misinformation (Giglietto et al. 2020).

We considered only the first occasion on which information was shared to establish 1) how the misinformation is legitimized on the Amazon website, through the analysis of book descriptions, 2) how misinformation is transferred and legitimated by Facebook users, and 3) how legitimization occurs between the two digital platforms.

10.4.1 Data Collection and Analysis

The first set of data collected for this study is represented by the descriptions available on the Amazon website of 28 books identified as misinformation, and listed in the 'Vaccination' Bestseller category on Amazon US, consisting of 5,594 words. The second set of data is composed

of Facebook posts containing the Amazon links to the five most shared books from the same sample of 28 misinformation books selected in Study 1. Initially, 873 Facebook posts were retrieved, reduced to 649 after duplicates and non-English language posts were removed.

In terms of analysis, three dimensions of legitimacy were adopted from Suchman's (1995) legitimacy framework: a) cognitive legitimacy, b) pragmatic legitimacy and c) moral legitimacy. In addition, two other dimensions emerged from the field data. The corpus has been then content-analyzed by using QSR NVivo 12 software. The coding process followed previous studies in the field (Paschen, Wilson, and Robson 2019). Firstly, two researchers independently coded 150 randomly selected Facebook posts and 10 Amazon titles' descriptions into the legitimacy dimensions identified through the literature. Then, the researchers reviewed the coding decision together until agreement was reached. Next, the coding dimensions identified from the data were discussed and compared, and the researchers extracted commonalities between them. Definitions and examples for each new coding dimension were developed, allowing to revise the initial list of coding scheme categories. The remaining data were then coded using the enriched version of the coding scheme. The final encoding results were analyzed through QSR NVivo 12 software and the overall rate of agreement between the two coders was 87% (0.75, Cohen's *k*).

10.4.2 Findings of Study 1

In addition to the three dimensions of legitimacy identified through the literature (i.e. cognitive, pragmatic and moral), two new dimensions are identified: expert and algorithmic legitimacy. Additionally, through this analysis twelve sub-themes emerged from the five dimensions, which allowed us to better understand the determinants of the various types of legitimacy. Table 12 provides a list of the themes identified, including examples of references and quotes.

In the context of vaccine misinformation, *cognitive legitimacy* is conveyed through narratives reporting a conspiratorial view of the world blaming the pharmaceutical establishment, the media system and the Governments for promoting their self-interest against individuals' well-being. Specifically, these institutional entities are often alleged to hide the harmfulness of vaccines for economic purposes. In this sense, cognitive legitimacy emerges when the information provided through the titles helps the readers in making the world a less chaotic place, finding correlations between entities and events that harm the population. When legitimated, conspiratorial beliefs could be strong predictors of vaccines uptake (Kata 2010). We identified three themes for cognitive legitimacy. For example, the theme '*Big Pharma Establishment'*, highlights where legitimacy is given by attacking the medical and pharmaceutical establishment in two ways. Firstly, attacking content claims that pharmaceutical companies are alleged to hide the real results of vaccine studies in order to promote them. Secondly, the pharmaceutical establishment is accused of adopting criminal practices towards the doctors (the authors of the books among them) who 'bravely' uncover their misconduct. These claims are reinforced through links to external sources.

Table 12: *Summary of Findings*

Legitimacy dimension	Themes	Quotes	# References
Cognitive Legitimacy	Big Pharma establishment	*Here's another reason to go along with the 'Gulag Science' mandatory-multiple-vaccines-for-everyone agenda: If you question the efficacy and safety of vaccines--especially if you're a whistleblower or a medical professional--Big Pharma will 'hit' you:*	82
	Outsiders thinking	*As The decision to fly in the face of near universal scientific opinion doesn't come as a result of a lack of intellect, however, as experts who have studied vaccines and immunology acknowledge that many parents who don't vaccinate their children are well-educated." What does it come from? This article says "misinformation." That is fake news*	39
	Media/State agenda setting	*If the general public (and our politicians and physicians) knew all the research that is referenced in this book, there would be a federal law preventing any state or school from requiring ANY person, child or student from being vaccinated. I only wish that in addition to this book, everyone would watch the 2 documentaries, VAXXED and 50 Cents a dose. We are being herded like sheep into a society of lowered IQ, lowered immune function and ZERO informed consent just to support big business and big profits.*	85
Pragmatic Legitimacy	Support for parents	*A book every parent should read BEFORE having kids.*	103
	Personal empowerment	*YOU HAVE A CHOICE. When there is a risk we should always have a choice and get informed to actually make an truly informed choice. AND YES your child can still go to school with out SHOTS*	83

	Alternative medicine practices	*Research birth. Find a gentle practitioner. Hire a doula. Consider homebirth. Helping babies come into the world in a gentle, loving way—free of birth violence, medication, separation from mom—sets them up for a lifetime of good health. Read more about why we advocate for natural childbirth*	17
Moral Legitimacy	Vaccines Consequences	*It is not possible to have a safe vaccine ....it defies the natural function of the immune system....it thwarts the immune system into a natural unbalance and leaves us susceptible to more things than what you've been vaccinated for....*	209
	Community support initiatives	*I'm grateful you're here and I'd love your help in making my book launch on September 19th as successful as possible. As you know, 100% of my book proceeds are going to autism causes, and here are two ways you can help (if you want to): 1. Go to this Google Drive link and download images to post on FB and Twitter. Please include this link to Amazon for people who might want to order the book…*	29
Expert Legitimacy	Credentials	*As a Functional Medicine practicing pediatrician, words are inadequate to describe how good this book is! After a total of 31 years in conventional pediatric practice, and another 11 years serving on the teaching faculty of a major university pediatric teaching program, I discovered the world of integrative medicine.*	85
	Scientific legitimacy	*Had I not previously read about many of the lines of research and evidence he cites, I would have found his conclusions shocking to the point of outright dismissal. His sources however are of the highest credibility and his line of reasoning irrefutable.*	53
Algorithmic Legitimacy	Reviews	*We get over a dozen messages every day thanking us for writing The Vaccine-Friendly Plan. It now has 894 5-star reviews.*	80
	Ranking	*Book is now ranking among the TOP 200 products sold on Amazon.com*	34

Similar power dynamics apply also to the second theme of cognitive legitimacy, *Media-State Agenda-Setting*. Statements accuse the media of hiding the truth by not giving any coverage to the (anti-vaccine) books. In this theme, cognitive legitimacy is elicited by exposing secret plots and conspiracies implemented by both the media system and the Governments against individuals' freedom and wellbeing. By achieving cognitive legitimacy, these books fulfil the needs of people who feel powerless (Abalakina-Paap et al. 1999) and lack sociopolitical control or psychological empowerment (Bruder et al. 2013). These individuals are more likely to embrace conspiracy theories to find meaning in an apparently meaningless environment (Douglas, Sutton, and Cichocka 2017).

The last theme of cognitive legitimacy, *Outsider Thinking*, refers to claims about prominent doctors, the authors of the books or the authors of the Facebook posts being independent of the power systems (Big Pharma, Media and Governments). These 'outsiders' are identified as defenders of the right to access relevant information. Here, cognitive legitimacy is achieved by identifying an 'outsider' system of thinking and by praising the individuals who dare to fight against censorship to provide the needed vaccine information. This is complemented by attacks to out-group individuals aimed at maintaining a positive image of the self and the in-group, (Douglas, Sutton, and Cichocka 2017). Even in this case, it is interesting to note how cognitive legitimacy is achieved through the dynamics of conspiracy theories which may be recruited defensively, to relieve the self or in-group from a sense of culpability for their disadvantaged position (Cichocka et al. 2016).

Pragmatic legitimacy involves direct or indirect exchanges between organization and audience in which organizational action visibly affects the audience's well-being (Suchman 1995). In this case, pragmatic legitimacy is explained by claims about how reading the books will benefit the readers

and guide them towards an informed decision about vaccines. We identified three themes for pragmatic legitimacy. In the theme of *Support for Parents,* pragmatic legitimacy emerges when readers evaluate positively the practical information about vaccines that the books present. The targeted audience of most books is represented by pregnant women and/or new parents.

Alongside parenting suggestions, the books are recommended as a route to *Personal Empowerment*. Empowerment refers to the suggestion of abandoning the mainstream health world and embracing the alternative truth proposed by the books, which suggests that the choice of vaccinating children should be up to parents (and not doctors). Moreover, the books confer pragmatic legitimacy in that they represent a way for individuals to rebel against the mainstream medical culture and take the control of their bodies (and lives) back. Finally, pragmatic legitimacy is evoked by praising the benefits of embracing *Alternative Medicine* practices such as naturopathic and holistic treatments, which has been already identified as one of the potential reasons for the spread of misinformation (Chou et al. 2018). These practices are described as means to detoxify the body and give long term health in counterpoint to mainstream medical practices such as vaccines.

Moral legitimacy indicates a positive normative evaluation of the organization and its activities, reflecting judgements about whether the organization's activities are "the right thing to do" and promote social welfare (Suchman 1995). In the context of vaccine misinformation, moral legitimacy is conferred mainly by revealing the dangerous composition of vaccines and, then, their consequences in terms of autism and other autoimmune diseases. We identified two themes for moral legitimacy.

The first is *Vaccine Consequences*. Many statements refer to vaccines as an unnecessary treatment for the population wellbeing that can lead to the development of autoimmune diseases such as

autism in vaccinated children. Statements coded in this theme feature emotionally charged content, to achieve an emotional engagement with the audience. The moral dimension of legitimacy is conveyed mostly by stories shared by parents who have seen their children developing illness after being vaccinated. Sharing personal emotions and information, as well as evoking autobiographical memories and personal stories, enables users to become active participants (Van Laer et al. 2014) and may help create a strong connection with the other people involved in the conversation (Dessart and Pitardi 2019). From this perspective, the authors of the books invoke a moral duty of reporting these stories, which in their view are often hidden or silenced by the mainstream healthcare establishment. The last theme of *Community Support Initiatives* references activities that the authors or their supporters offer to help their communities, such as autism communities. In this case, moral legitimacy is conveyed by the philanthropic intent of the authors of the titles that try to stimulate the purchase of the books pledging donations to charities and families support programs.

Two new dimensions were identified that are specific to the marketplace context of this study. The first, *expert legitimacy,* is evoked through the presentation of the books' authors as experts in their fields, mostly pediatricians and medical doctors. We identified two main themes for expert legitimacy. *Credentials* are used widely and prominently as a means to display a form of medical qualification of the authors. Even if the author qualification was a PhD unrelated to healthcare it was still perceived as relevant. In this case, legitimacy is conveyed through the idea of providing 'expert judgments', which are known to be strong influencers of consumer decision-making (Clauzel, Delacour, and Liarte 2019).

Another theme was the use of scientific literature to support arguments, highlighting the important role that *Scientific Legitimacy* plays in judgements of evidence quality, even by non-scientific

members of the public. However, whilst there may be public awareness of the role of scientific evidence in determining effective healthcare outcomes, there is less awareness of how this actually works. Papers were identified in lower quality journals or journals that might lack a clear review process. In other cases, summaries of papers are not related to the core content of the paper. The misrepresentation of 'scientific' evidence, or the promotion of poor quality evidence, provides the scaffolding upon which expert legitimacy of vaccine misinformation is formed. This is particularly relevant given it is the same form of legitimation upon which the professional advice for public health is based.

The second new dimension is *algorithmic legitimacy,* legitimacy derived from the logic behind the inclusion of a particular book in the algorithmically determines Bestseller categories or book reviews. As algorithms select the information displayed, their output has a considerable impact on consumers' attitudes and behaviors (Epstein and Robertson 2015) and, more importantly, on the perceived credibility of information (Westerwick 2013). In this way, algorithmic legitimacy confers credibility and social acceptance to vaccine misinformation books when information about these books spreads on social media. Two main themes concur in the creation of algorithmic legitimacy. The theme of *Reviews* includes claims reporting the support that the book has received from other readers, especially in the form of positive reviews on Amazon. Communicating the number and positive valence of the reviews fulfils two goals for the authors of the books. Firstly, they are able to show the audience that other readers have appreciated the information contained in the books. Second, they use this support to stimulate further audience engagement with the books on the Amazon marketplace, generating more sales and more reviews. In turn, higher sales and more reviews determine algorithmic recommendations so that the books are given more visibility on the marketplace. The second theme is *Ranking,* where legitimacy is stimulated by

showing how much success the book has received on Amazon, referring to the volume of purchases and the fact that the books are regularly listed in Amazon's Bestsellers. This not limited to just the Amazon ranking, but also include references to the number of followers the authors or particular groups supporting the authors have on other digital platforms such as Facebook. Even in this case, algorithms play an important role in determining the popularity of social media pages and groups. The more users follow a page, the more it will be recommended to other users. Therefore, the number of followers a Facebook page has could be seen as a confirmation of the legitimacy that algorithms confer to that page.

10.4.3 How Is Vaccine Misinformation Legitimized Within and Between The Online Marketplace And Social Media Platform?

From the analysis, it was possible to assess the number of coding references of the dimensions of legitimacy across the two sets of data (Table 13).

Table 13: *Coding References of Amazon and Facebook Datasets*

Legitimacy Dimensions	**Amazon data**	**Facebook data**	**Total**
Cognitive Legitimacy	39 (18.9%^{r}) (24.8%^{c})	167 (81.1%^{r}) (22.4%^{c})	206 (22.9%)
Pragmatic Legitimacy	52 (25.6%^{r}) (33.1%^{c})	151 (74.4%^{r}) (20.4%^{c})	203 (22.6%)
Moral Legitimacy	29 (12.2%^{r}) (18.5%^{c})	209 (87.8%^{r}) (28.2%^{c})	238 (26.5%)
Expert Legitimacy	37 (26.8%^{r}) (23.6%^{c})	101 (73.2%^{r}) (13.6%^{c})	138 (15.4%)
Algorithmic Legitimacy	0 (0%^{r}) (0%^{c})	114 (100%^{r}) (15.4%^{c})	114 (12.6%)
Total	157 (17.5%)	742 (82.5%)	899 (100%)
χ^2 (4, N = 899) = 46.76; p<.001			

r = row percentage; c = column percentage

These results shed light on the extent to which each dimension of legitimacy is elicited, showing different mechanisms between the description of the misinformation books available on the Amazon website (the starting point) and the Facebook posts containing the Amazon link (arriving point).

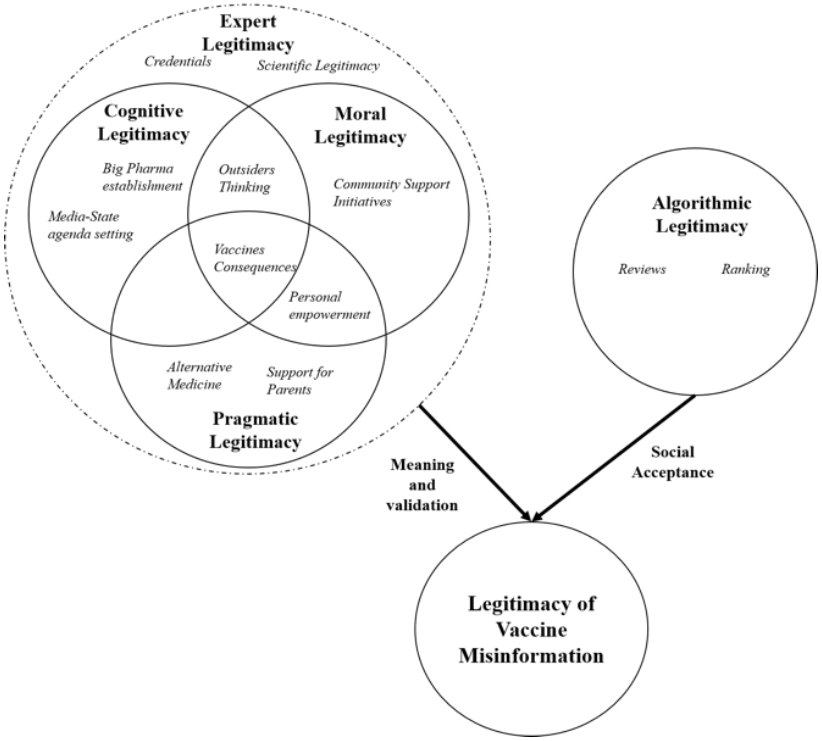
When focusing on the marketplace (i.e. Amazon), pragmatic legitimacy is the most evoked dimension. The books are described as a means to give readers practical information to make informed choices on vaccination and to support future parents in their decisions. This is then followed by a cognitive dimension that is conveyed through narratives promoting individuals' interests against Big Pharma and governments' lobbying activities, which is connected to a moral dimension of legitimacy. Expert legitimacy is then used by authors to assess their professional authority, or the authority of the author of the forewords included in the description, and to strengthen the credibility of the books.

Another perspective is provided through the analysis of the Facebook posts. Here, the most conveyed dimension of legitimacy is moral. Unlike the Amazon book descriptions, written by the authors of the books, Facebook posts are shared by the book readers, who find moral utility in the community-supporting activities associated with the purchase of the books. The vaccine misinformation books are legitimized through the cognitive dimension which is strictly linked to the moral dimension. As the authors do 'the right thing' by exposing the hidden truths about vaccines and pharmaceutical companies, they act as outsiders of the power systems and help readers in questioning the taken-for-grantedness of the existing medical establishment. Expert legitimacy through credentials is then used by Facebook users to increase the trustworthiness of their posts and of the promoted misinformation. Finally, algorithmic legitimacy arises from the Facebook dataset. Ranking positions and positive reviews from Amazon are used by consumers on Facebook to praise the vaccine misinformation books and their authors, and to ultimately confer authority and increase the reliability of their posts. This reveals the potential impact of the marketplace in the legitimization process of vaccine misinformation books on social media.

10.4.4 The Vaccine Misinformation Legitimacy Framework

Drawing from the insights of this content analysis, we propose a conceptual framework of the legitimation process of vaccine misinformation titles (see Figure 8.10). The framework identifies the different dimensions of legitimization and delineates the connections between them, showing how legitimacy is developed from the marketplace to the social media platform.

Figure 8.10: *The Vaccine Misinformation Legitimation Framework*



Cognitive, Moral and Pragmatic dimensions of legitimacy

Legitimacy directly stems from the contents of the books and originates from the books' descriptions on Amazon or social media posts. Three types of legitimacy, namely, cognitive, moral, and pragmatic, combine to give meaning to vaccine misinformation. These types of legitimacy are strictly related to each other. In particular, the theme regarding vaccine consequences, which we coded as conveying moral legitimacy, also plays a central role in delivering cognitive and pragmatic legitimacy. By

exposing the 'hidden truths' behind the creation and commercialization of vaccines, these books acquire legitimacy as the audience perceives them as meaningful, useful and worthy.

Expert dimension of legitimacy

The legitimation process suggests the adoption of symbols and credentials of legitimate health information purveyors to enable misinformation to be evaluated on the same criteria as highly credible information. Expert legitimacy arises from the descriptions of Amazon's titles and is then transferred to social media, where is used as a means to reinforce and validate the rigor of the information provided. The cognitive, moral and pragmatic dimensions of legitimacy are embedded in the expert dimension. These dimensions are directly generated by the contents described in the books and reinforce each other. In this sense, expert legitimacy confers trustworthiness on the vaccine misinformation, as it appears to come from knowledgeable health care professionals. This validation might occur either before or after the action of the cognitive, moral and pragmatic dimensions.

Algorithmic dimension of legitimacy

Contrary to the previous dimensions, algorithmic legitimacy is not strictly related to the content of misinformation; rather, it is granted by algorithmic logics that blindly popularize the contents on the online marketplace. The algorithmic dimension of legitimacy possesses a temporal component. It represents the last step of the process and emerges exclusively from the social media dataset. The success that the titles have on the marketplace in terms of positive reviews and rankings act as the ultimate confirmation of the appropriateness, usefulness and trustworthiness of information contained in the books, thus reinforcing their social acceptance.

10.5 Hypotheses Development

Building on the results of our qualitative investigation of the vaccine misinformation legitimization process, the following experimental studies aim to empirically test the effect of the first newly-identified level of legitimacy, i.e. expert legitimacy, on consumers' evaluation of misinformation and sharing

behavior. Our decision to focus on expert legitimacy is due to various reasons. Firstly, it is the first level that directly impacts the legitimacy of misinformation. Secondly, while algorithmic legitimacy is automatically generated from interest-based machine logics, expert legitimacy is created by people who leverage their knowledge to spread misinformation. As a result, any policy implications might be more direct and effective in mitigation of this phenomenon.

10.5.1 Credentials as Expert Cues

In Study 1 we found that authors' credentials, displayed as medical qualifications, represent one cue conveying expert legitimacy as they confer credibility and trustworthiness to authors. Building upon this, our main interest is assessing the impact of expert cues on the perceived legitimacy of the books. Legitimacy is a measure of the consumers level of acceptance of the firm (Randrianasolo and Arnold 2020) and thus justifies the presence of its products on the market. The role of experts in legitimization processes is important as expertise confers validity cues to consumers who assess the legitimacy of an organization (Bitektine and Haack 2015). In cases when the information to evaluate is highly complex consumers may experience uncertainty during the evaluation process due to their inexperience of the subject (Humphreys and Carpenter 2018). Consequently, expertise can be even more influential in alleviating consumers' cognitive load (Durand, Rao, and Monin 2007). Expert judgements are key factors affecting consumers' evaluation in a variety of industries (Clauzel, Delacour, and Liarte 2019). For experience goods such as books, expert judgements can provide consumers with signals of the quality of the product (Kovács and Sharkey 2014), reducing consumer uncertainty. Based on the above, we hypothesize that expert cues (communicating expert legitimacy) increase consumers' perceptions of legitimacy of the book. Formally:

H1: The presence of expert cues in the book description increases consumers perceptions of legitimacy

10.5.2 The Moderating role of Vaccine Hesitancy

In the context of our investigation, we suggest that vaccine hesitancy acts as a boundary condition in the development of legitimacy perceptions for vaccine misinformation.

Vaccine hesitancy reflects consumers' concerns about the decision to get vaccinated (Salmon et al. 2015) and results in delays in acceptance or refusal of vaccines despite availability (Shapiro et al. 2018). Vaccine hesitancy may result from individuals' evaluation of vaccines safety (MacDonald 2015). However, context-specific elements that revolve around historic, socio-cultural, economic and political factors play a key role in influencing attitude toward vaccines (Larson 2016). Today, the rapid spread of vaccine misinformation on social media fuels the spreading of vaccine hesitancy, lowering individuals' willingness to trust scientific institutions and the pharmaceutical industry (Wardle and Singerman 2021; Dhaliwal and Manion 2020). This also emerges from the findings of Study 1, where we show how anti-vaccine misinformation covers a range of topics, ranging from conspiracy theories regarding the Pharmaceutical establishment to distrust of the government. Given the mistrust toward the medical establishment embedded within the anti-vaccine movement, we expect that the presence of expert cues will have a different impact on legitimacy perceptions, depending on the individuals' level of vaccine hesitancy. Specifically, we suggest that the authors' credentials will lead to higher legitimacy perceptions for individuals with low levels of vaccine hesitancy (i.e. with positive attitudes towards vaccines). On the other hand, for highly hesitant individuals, the authors' medical credentials will be detrimental to the perceptions of the books' legitimacy. Formally:

H2. Vaccine hesitancy moderates the effect of expert cues on perceived legitimacy. Specifically, the effect of expert cues will be positive (vs. negative) for low (vs. high) levels of vaccine hesitancy.

10.5.3 The mediating role of Legitimacy

Perceived legitimacy is auxiliary to other processes, such as attitude formation and potentially behavior (Zelditch 2001). Higher levels of legitimacy may not only be associated with more positive evaluations

of an organization and its existence (Randrianasolo and Arnold 2020), but also with the development of trust and credibility (Chari et al. 2016). Trust is a fundamental component in the health information environment and those sharing information must establish their legitimacy in the field in order to gain influence and an audience. These dynamics apply also to spreaders of misinformation, who leverage their personal expert legitimacy to increase the legitimacy of the information and, in turn, stimulate the sharing of the contents on social media. Formally:

H3: Perceived legitimacy mediates the effect of expert cues on social media sharing behavior

10.6 Study 2: Assessing the impact of Expert cues on perceived legitimacy

Study 2 examines the effect of expert cues on perceived legitimacy (H1) and the moderating influence of vaccine hesitancy on this relationship (H2).

10.6.1 Participants, Design and Procedure

A total of 191 US consumers (women 54.5%; M_{age} = 35.19, SD = 12.12) recruited from the Prolific online panel participated in the study. We implemented a 2 (expert cues: presence vs. absence) x 1 full factorial between-subject design.

Respondents read a scenario describing a situation in which they receive a link from a Facebook group pointing to one of the books considered in our study. The stimuli then showed a fictional marketplace search page displaying the book's cover, and the author and book descriptions.

To develop our stimuli, we selected 4 books among the 28 analyzed in Study 1. In order to counterbalance the possible influence of factors such as cover vividness, book title and book content on our dependent variables, we included all the four books in the experiment, resulting in 4 stimuli for each condition. All the experimental stimuli and manipulations were pre-tested. Details of the pre-tests and stimuli for both Study 2 and 3 are available in Appendix 2.

First, respondents expressed their views on vaccines through the 7-points Likert Vaccine-hesitancy scale (α =.96; Shapiro et al. 2018), which served a moderator in this study. After the stimuli, they rated the author's expertise on a five-items 7-points Likert scale (α =.98; Ohanian 1990) and the perceptions of the book legitimacy on a five-items 7-points Likert scale (α =.93; Chung, Berger and DeCoster 2016). Then, we included two control variables in the survey instrument. In particular, we asked whether the respondents knew the book shown in the scenario (binary choice: yes/no) and we measured their involvement with the topic (vaccine) through a three-items 7-points Likert scale (α =.90; Jiménez, Gammoh and Wergin 2020). Finally, respondents answered demographic questions (age and gender).

10.6.2 Results

First, we checked the effectiveness of our manipulation. Results of a one-way ANOVA revealed that participants in the presence of cues conditions rated the author's expertise as higher (M_{pc} = 5.54) compared to the absence of cues condition (M_{ac} = 4.42; F(1,190) = 26.29; p<.001).

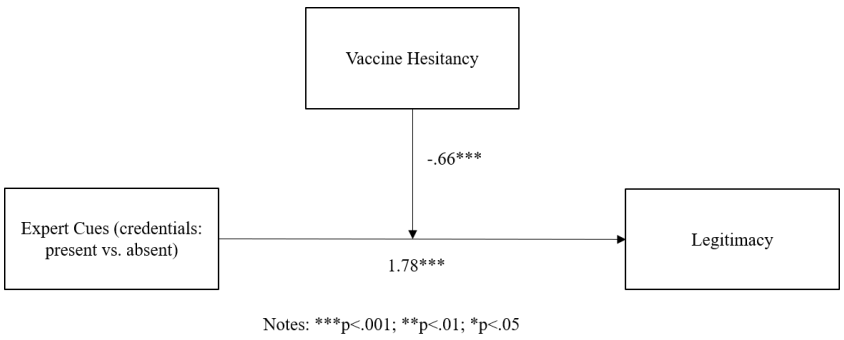
Effects on Perceived Legitimacy

A one-way ANOVA on perceived legitimacy showed that individuals perceived higher level of legitimacy when in the presence of expert cues condition (M_{pc}= 4.52) than in the absence condition (M_{ac}= 3.96; F(1,189) = 7.26; p<.01; η^2=.11). These results provide support to H1, confirming the significant positive effect of expert cues on perceived legitimacy.

To test the moderating effect of vaccine hesitancy on the relationship between expert cues and perceived legitimacy, we performed a moderation analysis employing the Hayes (Hayes, 2021) PROCESS Macro Model 1 with 10,000 bootstrapped samples. Age (b=-.001; ns), gender (b =-.62, [CI] 95% [-1.01; -.22]) and involvement with the topic (b = .37, [CI] 95% [0.16; 0.58]) were added in the model as control variables. The exclusion of the control variables from the model did not produce any significant change in the registered effects. The overall moderation model has significant effects F(6, 184)= 7.56; p<.001; R^2=.20. Results revealed significant main effects of expert cues (b = 1.63, [CI] 95% [0.85; 2.42]) and

vaccine hesitancy (b= .60; CI 95% [0.31; 0.89]), as well as a significant and negative interaction between expert cues and vaccine hesitancy (b= -.66; CI 95% [-0.99; -0.24]). Since vaccine hesitancy was a continuous variable, we explored the interaction using the Johnson-Neyman floodlight technique (Spiller et al., 2013). The analysis showed significant effects of expert cues on perceived legitimacy for levels of vaccine hesitancy lower than 3.94 (b_{JN} = -.90, SE = .45, *p* =.050) and higher than 5.92 (b_{JN} = .41, SE = .20, *p* =.050). Specifically, for highly vaccine-hesitant individuals (values lower than 3.94), credentials negatively impacted on legitimacy. Conversely, when individuals exhibit positive attitude toward vaccines (values higher than 5.92), the effect of credentials was positive. These results provide support to H2 and show the pivotal role of individuals' vaccine hesitancy. For highly-hesitant individuals, the presence of credentials is detrimental to the development of legitimacy perceptions. However, the same credentials significantly increase perceived legitimacy of misinformation books in individuals with low vaccine hesitancy.

Figure 9.10: *Coefficients of the variable included in Study 2*



10.7 Study 3: The role of Legitimacy on social media

Study 2 has confirmed the role of expert cues in increasing legitimacy perceptions and has showed how vaccine hesitancy modulates this relationship. Study 3 builds upon these results and tests the validity of these relationships in a social media context. The study also includes a behavioral measure and it examines the mediating role of legitimacy in driving consumers' sharing behavior on social media (H3).

Finally, the study tests whether the effects identified change as a function of the type of book (factual vs misinformation). Previous studies showed that anti-vaccine misinformation is shared more widely than factual vaccine information (Xu 2019) and is generally more appealing to individuals than pro-vaccine information (Schmidt et al. 2018). While studies 1 and 2 focused only on misinformation vaccine books, in this study, we examine whether the persuasive effects of expertise and perceived legitimacy are reduced for factual vaccine information.

10.7.1 Participants, Design and Procedure

A total of 399 US consumers, recruited from the Prolific online panel (women 42.6%; non-binary 3%; M_{age} = 38.38, SD = 14.69) participated in the study. The online study used a 2 (Expert cues: present vs. absent) x 2 (Misinformation: factual vs. misinformation books) full factorial between-subject experimental design where the third factor (i.e. vaccine hesitancy) was measured.

Respondents read a scenario asking them to evaluate one sponsored Facebook post promoting a recently published book. The stimuli then showed a fictional sponsored Facebook post displaying the book's cover, and the author and book descriptions.

To develop our stimuli, we selected two of the misinformation books analyzed in Study 2 and paired them with two factual books identified in Study 1. All the experimental stimuli and manipulations were pre-tested. We measured vaccine hesitancy (α =.96), author's expertise (α =.97) and perceived legitimacy (α =.93) as in Study 2. The key dependent variable was whether people chose to share the Facebook post on their social media profile ("Would you share this post on Facebook?" "Yes/No"). We then measured the same control variables as used in Study 2, assessing whether the respondents were familiar with the book shown in the scenario and their involvement with the topic of the book (vaccines) (α =.95). Finally, respondents answered demographic questions (age and gender).

10.7.2 Results

A one-way ANOVAs confirmed the effectiveness of the expert cues' manipulation in decreasing the perceived authors' expertise (M_{pc} = 5.26 vs. M_{ac} = 4.31; F(1,398)=43.52; p<.001; η^2=.06).

Effects on Perceived Legitimacy and Sharing Behavior

First, we performed a one-way ANOVA to assess the impact of expert cues on legitimacy. Results confirmed the significant effect of expert cues on consumer perceived legitimacy ([F1, 398] = 4.52; p<.05; η^2=.09), providing further support to H1.

To test our main assumption (H3) that the legitimacy triggered by expert cues will result in sharing behavior, we performed a simple mediation analysis using PROCESS Macro Model 4, (bootstrapped 10.000; Hayes, 2021), which in his last version (4.0) allows the estimation of logistic regressions models when Y is dichotomous. In the model, expert cues served as our independent variable, perceived legitimacy as the mediator and sharing choice as the dependent variable. Results showed a significant effect of expert cues on perceived legitimacy (b = .32, [CI] 95% [0.24; 0.62]), and a significant indirect effect through perceived legitimacy (b = .44, [CI] 95% [0.02; 0.89]). Moreover, expert cues was no longer a significant predictor of sharing choice when controlling for perceived legitimacy (b = -.41, [CI] 95% [-1.00; 0.18]), which indicates a fully mediated model. The logistic regression model was statistically significant ($\chi2(2) = 27.307$, $p < .0001$) and explained 45.3% (Nagelkerke R2) of the variance in sharing choice. These results provide support for H3 and show that the persuasive effect of expertise through legitimacy positively influences sharing behavior.

To examine whether the relationship between expertise, perceived legitimacy and sharing behavior differs as a function of the type of book (misinformation vs factual), we first performed a two-way ANOVA on perceived legitimacy. Both expert cues ([F1, 398] = 5.04; p<.05; η^2=.02) and type of book ([F1, 398] = 59.49; p<.001; η^2=.13) significantly impacted perceived legitimacy. More importantly, results showed a significant interaction effect between the two independent variables ([F1, 398]= 5.38;

p = .02; η^2=.03), such that when exposed to misinformation vaccine books, participants perceived higher legitimacy when there was a presence (M = 4.04) than when there was an absence (M= 3.40) of expert cues ([F1, 398]= 10.35; p < .001; η^2=.02). Furthermore, follow-up planned contrasts revealed that perceived legitimacy significantly increased only in the misinformation condition ($\Delta M_{ac/pc}$ = -.646, SE = .201, p = .001), while no differences emerged in the factual book condition ($\Delta M_{ac/pc}$ = .010, SE = .199, *ns*). These results provide insights into the crucial role that expertise plays in vaccine misinformation and show that expert cues significantly increase legitimacy perceptions only in vaccine misinformation books.

We then conducted an additive moderated mediation analysis (PROCESS Macro Model 9, bootstrapped 10.000; Hayes, 2021), to simultaneously test the previous relationships on sharing behavior (Table 14). In the model, both the type of book and the individual differences in vaccine hesitancy were included as moderator. Age (b=-.004; ns), gender (b =-.14, ns) and involvement with the topic (b = .33, [CI] 95% [0.25; 0.45]) were added as control variables. The interaction between expert cues and misinformation was significant (b= .60; CI 95% [0.05; 1.14]), but not the interaction between expert cues and vaccine hesitancy (b= -.05; CI 95% [-0.27; 0.16]). The indirect effect of expert cues on sharing behavior through legitimacy was significant only for vaccine misinformation book (see Table 14). Moreover, this effect was strongest for individuals with low levels of vaccine hesitancy (VH = 7, b= .68; CI 95% [0.26; 1.10]) and decreasing for higher levels of vaccine hesitancy (VH = 4.9, b= .57; CI 95% [0.09; 1.05]). The logistic regression model was statistically significant ($\chi 2(2) = 27.307$, p < .0001) and explained 46.4% (Nagelkerke R2) of the variance in sharing choice.

Table 14: *Testing additive moderated mediation (Study 3)*

Predictors	**B**	**SE**	**t**	**p**
Outcome: Legitimacy				
Expert cues	.14	.28	.50	.62
Misinformation	-1.41	.20	-7.11	.03
Vaccine Hesitancy	-.19	.08	-2.32	.02

Expert cues x Misinformation	.60	.28	2.14	.00
Expert cues x Vaccine hesitancy	-.05	.11	-.48	.62
R^2				.19
Outcome: Sharing behavior				
Legitimacy	1.37	.16	8.74	.00
Expert cues	-.42	.30	-1.40	.16
R^2				.45

Bootstrap result for conditional indirect effects at values of the moderators

Misinformation	**Vaccine Hesitancy**	**Effect**	**SE**	**LLCI**	**ULCI**
Factual Books	Low (-1SD)	.09	.22	-.34	.51
	Medium	.04	.20	-.34	.43
	High (+1SD)	-.02	.24	-.50	.45
Misinformation Books	Low (-1SD)	**.68**	.22	.26	1.10
	Medium	**.64**	.20	.25	1.03
	High (+1SD)	**.57**	.24	.09	1.05

Notes: Note: N = 399. Unstandardized regression coefficients are reported. Bootstrap sample size = 10,000. LL = lower limit; CI = confidence interval; UL = upper limit. Values for vaccine hesitancy are the mean and plus/minus one SD from mean (*SD* = .92) . Bold values indicate p < .05.

These findings confirm that expert cues are significant predictors of sharing behavior through legitimacy only for vaccine misinformation books and not for factual ones. Moreover, while we did not find an interaction effect of expertise and vaccine hesitancy, results show that the indirect effect of expert cues through legitimacy magnifies when individuals display low levels of vaccine hesitancy (values higher than 6.19).

10.8 General Discussion

The spread of vaccine misinformation within a range of digital environments poses a serious threat to public health (Lahouati et al. 2020). The dissemination of these contents is amplified and facilitated by social media, yet little is known on how this process starts and how it is legitimized. Across three studies, the findings of this study show how expert misinformation travels and acquires legitimacy across digital platforms. First, in our qualitative investigation, we identified how vaccine

misinformation legitimacy is developed within and between the marketplace and the social media platform. Specifically, we showed how legitimacy is first established in the marketplace through cognitive, moral and pragmatic dimensions, then magnified by what we defined as the Expert legitimacy, finally strengthened by the Algorithmic dimension in the social media platform. Second, in two separate experimental studies, we tested the impact of Expert Legitimacy conveyed by expert cues on legitimacy perceptions and social media sharing behaviors. Study 2 focused on legitimacy development and showed the positive effect of expert cues on perceived legitimacy of misinformation books while assessesing the crucial moderating role of vaccine hesitancy. Specifically, in this study we found that the presence of expert cues increases perceptions of misinformation books' legitimacy in individuals that display a positive attitude toward vaccines, while decreases the same legitimacy perceptions in individuals with high levels of vaccine hesitancy. This is a relevant outcome as it demonstrates that the relationship between expert cues and legitimacy's development in misinformation books is particularly strong and positive with individuals who are generally supportive of vaccines. Study 3 analyzed these relationships in the context of social media and examined whether they hold for both vaccine misinformation and factual books. The results showed that expert cues drive social media sharing behavior through legitimacy. Moreover, we found that the persuasive effect of expertise through legitimacy is significant only for misinformation books, while no effect were found for factual books. Contrary to our expectations, we did not find confirmation of the moderating role of vaccine hesitancy in this study. However, it is important to note that the mean of vaccine hesitancy for the last study is generally higher (M = 6.19, SD = .92) than the one found in Study 2 (M = 5.92, SD = .87), which means that respondents to this last study displayed generally more positive attitude toward vaccines. This is possibily due to the fact that the two studies were conducted at different times, and the public debates around vaccines has significantly increased in the last months of 2021.

Taken togheter, the results of the qualitative investigation and the two experimental studies further our understanding of how the vaccine misinformation legitimization process starts and how it affects individuals behavior, providing evidence of the role of expert cues in legitimating vaccine

misinformation books especially for individuals with low levels of vaccine hesitancy, and in driving people sharing behavior on social media.

10.9 Theoretical Implications

The research contributes to both misinformation and legitimacy literature in several ways.

First, by building upon Suchman's (1995) legitimacy framework, this study expands previous literature by identifying two new dimensions of legitimacy that amplify the dissemination of health misinformation on social media. The study shows how expert legitimacy, conveyed by the use of medical qualifications and scientific evidence, and algorithmic legitimacy, developed through rankings and reviews, are the two types of legitimacy that ultimately confer credibility and trustworthiness to misinformation.

Second, the research contributes to the understanding of the legitimization process of harmful health misinformation. Specifically, it proposes a conceptual framework that delineates how legitimacy is established in the interplay among the five dimensions identified and it flows from the marketplace to the social media platform. While previous research on misinformation focused on the factors that can enhance legitimacy perceptions (Kim and Dennis 2019) and increase the spread of misinformation on social media (Allcott and Gentzkow 2017), this study adopts a broader perspective and identifies the relationships between the five types of legitimacy identified (Deephouse et al. 2017) and the path through which legitimacy is developed. The study sheds new light on the fabrication of legitimacy in marketplaces showing how it occurs through the allure of hidden truths and credentials magnified by algorithm-driven logics (Di Domenico et al. 2020). Moreover, this study seeks to trod a new path in the legitimacy literature by establishing the role of legitimacy of misinformation in driving individuals sharing behavior.

Third, the study contributes to the literature on misinformation by demonstrating that misinformation on online marketplaces can facilitate the dissemination of health misinformation through legitimation

processes. This study is among the first in the marketing field to acknowledges the role played by the marketplaces as one of the starting points of the spread of vaccine misinformation. While the majority of previous studies in misinformation literature have analyzed the dissemination process that occurs within social media (Del Vicario et al. 2019), this research is among the first to focus on other online information channels, identifying reputable marketplaces such as Amazon as an originator of vaccine misinformation. Moreover, the study demonstrates that the relationship between expertise, legitimacy and sharing behavior does not hold for factual information, providing a novel contribution that further our understanding on the elements that may facilitate vaccine misinformation sharing.

Finally, we shed light on the impact of vaccine hesitancy on individuals' legitimacy perceptions of misinformation. While previous studies have mainly tested the impact of misinformation on the development of vaccine hesitancy (Dhaliwal and Mannion 2020), we adopted vaccine hesitancy as a factor modulating perceived legitimacy and showed that the use of credentials increases perceptions of legitimacy of misinformation books in individuals with positive attitude toward vaccines.

10.10 Implications for Policy Makers

Addressing misinformation is a difficult challenge for policy makers, who must walk a fine line between regulation and censorship (Edwards 2022). While the EU seeks to legislate to monitor platforms directly, such as through the proposed Digital Services Act, in the US, there are no federal regulations that enable the removal of social media content (Pradhan 2021).

Although social media platforms have become more willing to self-regulate in the face of regulatory pressure (Cusumano, Gawer and Yoffie 2021), this paper identifies forms of misinformation that have largely escaped existing regulatory control. While there is consensus over the need for platforms to address harmful 'fringe' perspectives, the question of misinformation and scientific or professional expertise is more contested (Coombes 2022), as was seen, for example, in the dispute between the

British Medical Journal and Facebook that flagged a BMJ research article on vaccines clinical trials as misinformation. Recognizing these difficulties, we suggest two policy interventions.

First, while policy makers focus on individual platforms, such as Facebook and WhatsApp, this approach ignores the complexity of online information flows between platforms. In this study, high salience misinformation is legitimized through one platform (an online book marketplace), which in turn increases spread through another platform (a social media platform). The kinds of policy pressure applied on Facebook to encourage self-regulation around misinformation could also be effective on other platforms. This approach does not imply censorship or removal of content but uses existing techniques – labeling and limiting algorithmic promotion – to hinder discoverability. Where the threat of regulatory pressure is present, particularly with health-related misinformation, social media platforms have shown themselves willing to self-regulate.

Second, policy makers can address the role of professional accreditation in underwriting this legitimacy. The forms of misinformation identified in this paper represent the misuse of credentials. For example, the use of medical credentials by physicians who have been banned from practicing or the use of nonmedical credentials (e.g., a PhD in a nonmedical subject) to imply medical expertise. There already exist legal tools that can be used. In the US, Title 42 of the Code of Federal Regulations (CFR) specifies credentialing to ensure the safety of patients (CFR 2013). In the EU, credentialing is regulated by the Directive/2005/36/EC (European Union 2005). To address the role of credentialization in the spread of misinformation, platforms could be more active in verifying credentials when used to legitimize information. This approach would ensure a correct use of credentials, delegitimize misinformation and mitigate its spreading through digital environments while also building upon the verification mechanism that platforms currently use to address information quality.

10.11 Conclusion, Limitations and Future Research

Mistrust in vaccines is as old as vaccines themselves, and this mistrust can help spread misinformation. However, the combination of social media and the wide availability of highly legitimized forms of misinformation has accelerated this misinformation. This study has identified how these forms of misinformation are legitimized and spread through social media. The online communities in which discussion, and affirmation, of vaccine misinformation, occur are typically isolated from those in which mainstream pro-vaccine perspectives are discussed. This filter bubble effect leads proponents of vaccines to being unaware of the scope and nature of the vaccine-hesitant material that appears on social media (Johnson et al. 2020). This paper therefore provides a number of important policy implications in addressing vaccine misinformation. Despite these contributions, we acknowledge some limitations of our paper that future research can address.

Although the usage of CrowdTangle in academic research is growing, the tool currently tracks a limited number of Facebook pages/accounts. Further research could expand the exploration of the magnitude of the phenomenon by creating a more comprehensive dataset of social media posts and extending this analysis to other social media platforms.

We suggest that legitimization through credentials leads to sharing behavior on Facebook for vaccine misinformation content. Future research can expand these results and examine whether these effects holds for other social media contexts (i.e., Twitter) and with different misinformation types.

Moreover, we showed that algorithmic logics for displaying products in online marketplaces can facilitate the legitimization and spreading of misinformation. This opens a gap in understanding the issue from a business ethics perspective. To what extent are companies responsible for the spreading of misinformation? Should they limit the autonomy of algorithms and, in general, AI in making business decisions? To what extent, then, business ethics is compatible with business purposes? We leave the answers to these lingering questions to future research.

11. Concluding remarks

This final section of the dissertation outlines the contributions and outcomes of this research, followed by a discussion about its policy impact. Finally, it concludes proposing a research agenda that originates from the papers included in the dissertation.

11.1 Outcomes and contributions of the research

The conclusion of this dissertation is drawn from the outcomes and contributions that arise from the research objectives examined in the four papers included in the dissertation:

- **Research Objective 1:** Define the concept of "fake news" and differentiate it from other concepts related to false information.
- **Research Objective 2:** Provide a conceptual framework acknowledging the antecedents, dissemination process and consequences of social media misinformation
- **Research Objective 3:** Identify the different facets of the study of the phenomenon from a marketing perspective
- **Research Objective 4:** Understand the dynamics of the legitimation process of misinformation driving social media sharing

The previous interdisciplinary literature failed to provide a clear definition of fake news. Some scholars treated it as synonym of misinformation (i.e. false information that is share unintentionally), some others as a form of disinformation (i.e. false information shared on purpose). Some scholars adopted a narrow definition of the phenomenon, while others defined it more broadly. Paper 1 is a systematic literature review that proposes a revised (MacInnis, 2011) definition of fake news, defining it as *"a deliberate intent to deceive by manipulating individuals' cognitive biases and causing public harm for financial or ideological profit, exploiting the possibility of reaching a vast audience through social media".* Thus, this definition not only clarifies that fake news is a form of *disinformation*, but it also acknowledges the

fundamental role played by social media platforms in spreading such malicious contents and highlights how fake news leverage consumers' biases to gain financial or ideological profit.

Moreover, this dissertation delineates the fake news dissemination process, which is explained by the theoretical framework included in Paper 1. The framework delineates the antecedents of fake news creation, in terms of financial or political motivations. Then, the framework shows the dissemination process of fake news on social media, identifying three types of spreaders. *Non-human spreaders*, in the form of bots magnify the reach of fake news by automatically re-sharing contents (Zhang & Ghorbani, 2020). *Malicious human spreaders* contribute to the dissemination process either because they share some of the creators' goals or are paid to do so (Zannettou et al., 2019). *Benign human spreaders* are also involved in the dissemination process. Interestingly, belief in fake news drives their sharing behaviour. For them, their previous attitudes and beliefs regarding the target of the fake news, as well as the fabricated legitimacy of fake news, contribute to increase the likelihood of sharing on social media. Finally, the framework identifies the outcomes of fake news for brands and consumers highlighting how fake news can tarnish brand trust and reputation and significantly (perhaps permanently) alter consumers' attitudes towards brands.

This latter finding has stimulated the research process to achieve Research Objective 3. Specifically, in Paper 2 the author explores more deeply the fake news and general misinformation phenomena from a marketing perspective. This paper integrates the previous interdisciplinary knowledge about misinformation from a marketing perspective. Specifically, the paper examines the state-of-the-art of the marketing scholarship on the topic of fake news and misinformation, identifying the gaps to be filled and relevant questions to be answered.

Finally, the findings of this dissertation contribute to a more fine-grained understanding of the legitimization processes of fake news and misinformation on social media which end up increasing the likelihood of sharing and contribute to the overall spreading of false contents. In particular, the findings of Paper 3 suggest that the presentation format of news on social media can help reduce the sharing of

fake news. By presenting the source of fake news before its headline, users will be nudged to think about the (malicious) source of fake news, rather than the content. In this way, users will be more likely to trust less the content and perceive more the deceptive intent of the source, resulting in less willingness to share the news. In the same vein, Paper 4 presents an exploration of the legitimization processes of vaccine misinformation, originating from online marketplaces and spreading through social media. This paper provides a vaccine misinformation legitimacy framework that acknowledges three levels of legitimacy for these contents. While the first level of legitimacy is provided by *Cognitive, Moral and Pragmatic Legitimacy* (Suchman, 1995), the outer two levels are conveyed by the action of two newly identified types of legitimacy, which are relevant in the context of vaccine misinformation, namely *Expert* and *Algorithmic Legitimacy.* Furthermore, two experiments test the impact of Expert cues, conveying expert legitimacy, in motivating social media sharing.

In summary, the author wishes to inspire others and stimulate the marketing research on this topic. These findings represent only the starting point to a better understanding of the complex dynamics of this phenomenon, thus much more theoretical and practical research is needed to mitigate the impact of misinformation on society.

11.2 Policy and managerial implications of the dissertation

The governance of misinformation on social media represents one of the most serious concerns for policy makers, who constantly look for ways to address this problem. This dissertation has immense value for policy makers as the results of the papers included in it shed light into how social media users legitimise misinformation and share it. Therefore, by better understanding the legitimization dynamics of misinformation, policy makers will be able to formulate more actionable and meaningful interventions to curb the phenomenon.

Common policy interventions to address misinformation can be grouped into three categories: regulating information correction, content removal and blocking, and criminal sanctions (Helm and

Nasu 2020). To date a dozen of countries have introduced regulations to counter the spreading of misinformation (Funke & Flamini, 2019), however, these regulations are often problematic to apply due to rights over freedom of speech. Moreover, as digital environments are constantly evolving, so do the dynamics of misinformation spreading and the ability of spreaders to legitimise their contents. Acknowledging the structural limits that policy makers have in providing meaningful guidelines, the findings of the papers included in this dissertation show that it is possible to limit the spreading of misinformation on social media without appealing to measures that limit the freedom of expression. In this sense, the findings suggest that policy makers and social media platforms could nudge social media users towards more conscious social media sharing behaviours by de-legitimising misinformation contents. Firstly, the format that social media platforms adopt to display contents follows a "headline-primacy" format (Kim & Dennis, 2019), where emphasis is given to the headline of the shared article rather than its source. In Paper 3, the author shows how effective a "source-primacy" format (i.e. the source information is presented before the headline) is in limiting the spreading of misinformation. This happens as users are nudged to focus their attention on the source of the information and so, in cases of malicious sources, they develop higher perceptions of the deceptive intent of the source and less trust in the content. This mechanism leads to lower social media sharing.

However, sometimes misinformation is spread by individuals who leverage their credentials (e.g. medical or professional bodies) to hold an influence on their follower base and enable a massive spread of contents, as from the findings of Paper 4. In these cases, a source-primacy format might not be enough to de-legitimise contents. Nevertheless, policy makers have other opportunities at their disposal to counter misinformation spreading. First of all, policy makers should more closely work with professional, medical and scientific bodies to ensure the credentials of individuals are being used appropriately. As the presence of credentials directly increases legitimacy perceptions and, in turn, misinformation spreading, ensuring that such credentials are correctly displayed and understood by social media users appears to be fundamental. Then, policy makers should also work to regulate the impact of algorithms on the legitimization process of misinformation. The findings of Paper 4 show

that algorithms play an important role in legitimizing misinformation contents. The commercial use of algorithms in decision-making has been long associated with questions of accountability (Boddington 2017). At the same time, issues over the governance of algorithms cannot be separated from the intent of those organizations that are using the technology (Diakopoulos 2014). Policy makers should therefore consider ways to regulate the use of algorithms to promote harmful information and require a level of accountability for harmful decision-making.

The world is undergoing profound changes. Marketing research needs to apply the principles of doing responsible, resilient, and respectful research (de Ruyter et al., 2021) to inform practice and policy makers and make a valuable impact towards an increased sustainability of business models. However, sustainability does not only refer ecological concerns, but it encompasses a range of long-term goals that need to be met to ensure a brighter future. Fighting misinformation and its consequences (political, health-related) on organizations and consumers is an objective to reach for a sustainable future. This dissertation has thus the potential to make an impact on the world of tomorrow as its findings inform policy makers regarding ways to de-legitimise and limit the spreading of misinformation online.

11.3 Research Agenda

As discussed earlier, more research is needed to better understand the dynamics of a phenomenon that is evolving at a dramatic pace. From the papers included in this dissertation, it was possible to identify seven research questions that the future scholarship should try to answer.

Research Question 1: Why do benign social media users (i.e. those who do are not motivated by hidden agendas) share misinformation?

Recent evidence suggests that people share information because of three main reasons. The first motivation is self-enhancement, for the willing to appear expert or knowledgeable in the eyes of others (Tellis, MacInnis, Tirunillai, & Zhang, 2019). The second motivation is social: people share information to engage with their community and feel part of a group (Oh & Syn, 2015). Lastly, the

third reason is altruistic. In this sense, individuals share information to show concern for others (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004). These motivations may also apply to benign agents spreading fake news, given their inability to recognize the veracity of the shared information. They may be strongly motivated by the social and altruistic goals of informing the other members of their online community about political misconduct (Allcott & Gentzkow, 2017), health issues (Li & Sakamoto, 2014) or firms' malicious activities (Obadˇa, 2019).

Research Question 2: What is the role of emotion and affective states in the dissemination process of misinformation?

While previous studies have focussed more on the cognitive mechanisms, little attention was given to the affective and emotional determinants of belief in fake news, elicited by the polarization mechanisms of social media (Del Vicario et al., 2016). Emotions play an important role in creating a strong bond between consumers and firms (Thomson et al., 2005; Grisaffe & Nguyen, 2010). Thus, when consumers feel strongly attached to a firm, the dynamics of misinformation spreading might be fuelled by this stronger attachment and, more importantly the impact of misinformation might be even more severe for these individuals.

Research Question 3: does exposure to fake news and misinformation have short- or long-term effects?

Past research (Van Duyn et al., 2019) seems to support the claim for which misinformation primes individuals' minds and remains available for long time after the exposure. However, this effect might not hold in a very dynamic information environment, where individuals are overwhelmed by massive amount of information.

Research Question 4: in terms of marketing ethics, does research conducted in social media settings provide reliable data?

The proliferation of false and misleading contents poses serious issues for academic research on social media. In times when the trust in institutional authorities is at its lowest, academics must ensure that their research is conducted on validated data: what is the role that social media platforms play in this process, as they struggle to find a balanced compromise between giving the full freedom of speech to their users and fighting misinformation (Facebook, 2020)?

Research Question 5: What is the individuals' level of susceptibility to new forms of fake news, such as "Cheapfakes "and "Deepfakes"?

As the world evolves, so does misinformation. New forms of misleading contents have started spreading on social media, potentially more dangerous than other forms of problematic information. They are called "cheap fake" and "deep fake". Cheap fakes employ a simple "selective editing" technique to change videos in ways that they do not show what really happened. Deep fakes, instead, use artificial intelligence to create entirely fictional videos, images, or audio. To date, these new techniques are utilized predominantly in politics, to discredit politicians or political organizations ("What are Deep Fake and How can You Spot Them," 2019). Understanding the impact of these new forms of misinformation on consumers is one of the main future challenges for academic research.

Research Question 6: To what extent are companies responsible for the spreading of misinformation? Should they limit the autonomy of algorithms and, in general, AI in making business decisions?

Algorithmic logics for displaying products in online marketplaces and news on social media can facilitate the legitimization and spreading of misinformation. This opens a gap in understanding the issue from a business ethics perspective. As algorithms facilitate products' discovery and rule the digital world, to what extent business ethics is compatible to business purposes in online environments?

Research Question 7: What will be the role and impact of misinformation in the future?

Artificial Intelligence technologies, as in the case of Deepfakes, can process incredible amount of data to create convincing fake contents, to which users are exposed seamlessly. Alongside this, the creation of immersive digital technologies, such as the Metaverse, is redefining the relationship humans have with digital platforms, providing us with experiences that transcend physical perceptions. What will the impact of fake contents be on people where Artificial Intelligence meets the Metaverse?

Table 15 provides a summary of the identified research avenues on fake news and misinformation.

Table 15: *Summary of future Research Questions*

Discipline	Topic	Research Questions
Consumer Behaviour/Psychology	Misinformation Sharing	Identification of the characteristics of *Benign social media users* and the motivations behind misinformation sharing
	Effects of exposure to misinformation	Short- vs. Long-term effect of exposure to misinformation on social media
	New forms of misinformation	Identification of the characteristics of "Cheapfakes" and "Deepfakes" and individuals' levels of susceptibility to these new forms of false information.
	Emotions	Analyse the impact of consumers' emotional states on the misinformation dissemination process.
	Misinformation in the future	Identify the susceptibility to misinformation in immersive digital environments, such as the Metaverse.
Marketing Ethics	Reliability of social media research	Identify the best practices to conduct reliable social media research. What can social media platforms do to help researchers?
Marketing strategy/Ethics	Algorithms	Identify the negative side of algorithms in shaping consumers' exposure to contents online. If algorithms help spreading misinformation, what can brands do to limit their impact? To what extent business ethics is compatible with business purpose?

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13. Appendix 1 – Supplemental material for Paper 3

Table A1. *Measurements Scale*

Measure	Scale	Source
Willingness to share	Think about the Facebook post you have just seen. Sharing this post on Facebook is for you: Unlikely/Likely Improbable/Probable Implausible/Plausible	Hayes & King (2014)
Deceptive intent of the source	How do you perceive the source of the information shared through this Facebook post? Honest/Dishonest Truthful/Deceitful Not Deceptive/Deceptive Not Misleading/Misleading	MacCornack et al. (1992)
Trust in the message	This news appears to be more trustworthy than other news I read (1= strongly disagree; 7= strongly agree); My trust in this news is (1= very low; 7= very high); I believe the news is credible (1= strongly disagree; 7= strongly agree).	Adapted from Bart et al. (2005)
Personal involvement	To me, the topic in the Facebook post is: Unimportant/Important Of no concern/Of concern Irrelevant/Relevant	Jimenez & Gammoh (2020)

Familiarity	How familiar are you to the topic of the Facebook post? Never heard of it/Very familiar	Pennycook & Rand (2019)

Table A2*. Study 2: variables descriptive statistics and zero-order correlations*

Variable	Mean	SD	WTS	Tie Strength	Trust	Deceptive intent
WTS	1.98	1.19	1.000			
Tie Strength	3.94	2.05	.115	1.000		
Trust	1.94	.936	.403 *	.210*	1.000	
Deceptive Int.	5.44	1.22	-.437**	-.687*	-.138*	1.000

Note. n= 277

**p<.05 **p<.01 ***p<.00 (two-tailed test)*

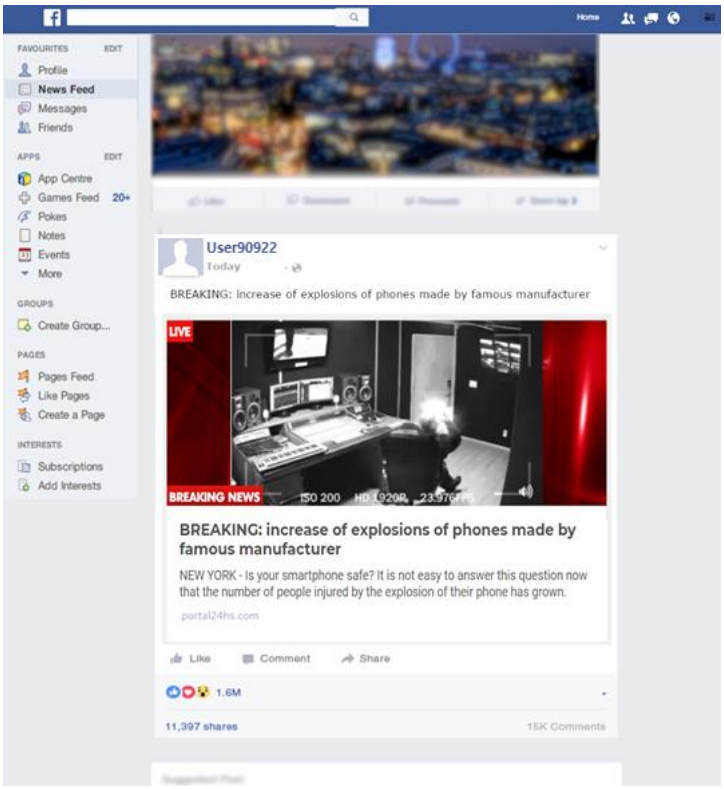
Figure A1. *Stimuli for Study 1*

Headline primacy

Source primacy

Figure A2. *Stimuli for the suppressed "Real name vs. anonymous poster" manipulation for Study 1*

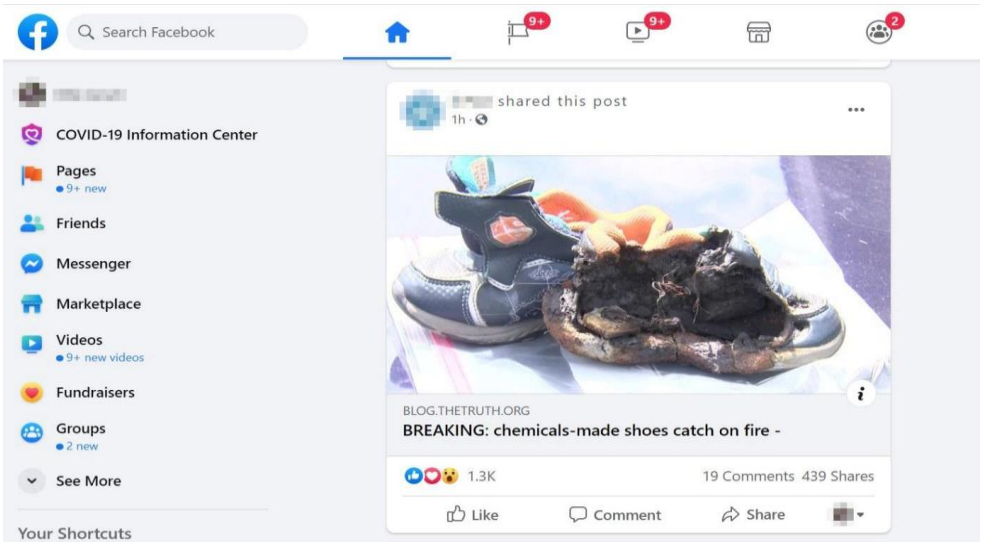
Headline Primacy



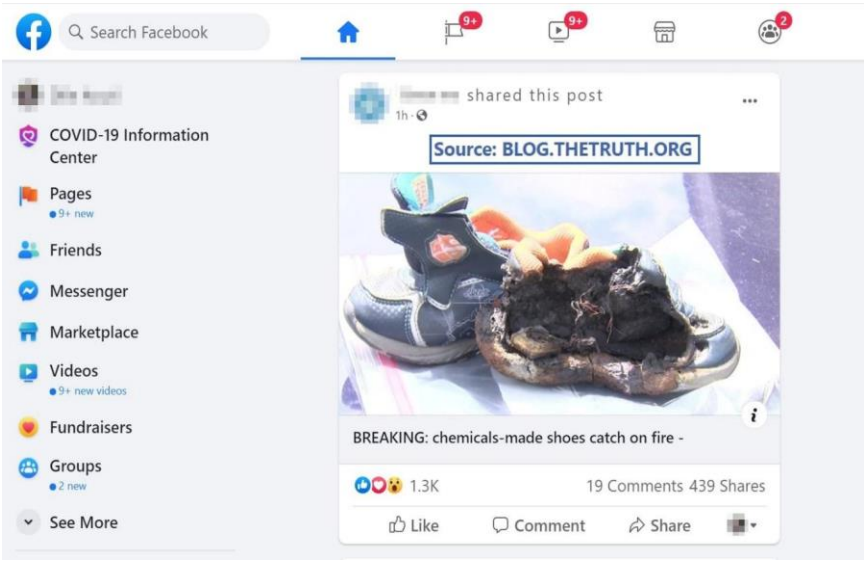
Source primacy

Figure A3. *Stimuli for Study 2*

Headline primacy



Source primacy


Search Facebook
COVID-19 Information Center
Pages
9+ new
Friends
Messenger
Marketplace
Videos
9+ new videos
Fundraisers
Groups
2 new
See More
shared this post
1h
Source: BLOG.THETRUTH.ORG
BREAKING: chemicals-made shoes catch on fire -
1.3K
19 Comments 439 Shares
Like
Comment
Share

14. Appendix 2 – Supplemental material for Paper 4

Experimental Pretesting for Study 2

The context of our study is represented by vaccine misinformation books sold via online marketplaces. In order to avoid any possible branding bias, we created a fictional online marketplace as the experimental setting. The vaccine misinformation books to be included in the experiment were selected among the 28 books included in the dataset utilized in the Preliminary study and Study 1. The manipulation of expert cues was realised by including (vs. excluding) information about the authors' medical credentials within the stimuli. We tested our stimuli and manipulations in a set of pre-tests.

Pre-test 1

First, we pretested the trustworthiness of the fictional marketplace brand, in order to select the most trustworthy. To create our stimuli, we invented a plausible name for a marketplace (Mcallisterbooks.com) and verified it to be inexistent before the experiment. We created four different versions of the fictional marketplace utilizing different colours and layouts. The four versions were then tested for trustworthiness with 100 participants recruited from the Prolific online panel (female 49.5%; M_{age} = 31.90, SD = 10.16). Participants were pre-screened on the criterion of being US citizens. This screening criterion has been applied for all the following pre-tests and main experiments. participants were randomly assigned to one of the four versions of the fictional marketplace. During the pre-test, participants initially read a scenario. The scenario for this pre-test read: *"Imagine you are at home, looking for a book to buy on the Internet. You perform an Internet search using the keywords "online bookstores". Then, you click on the first result of the result page. The link redirects you to this online marketplace specialised in selling books. Please, look carefully at the website name, logo and layout and answer the following questions".* Then, they were asked to rate the trustworthiness on a five-item semantic differential 7-points Likert scale (Not trustworthy/Trustworthy; Undependable/Dependable; Dishonest/Honest; Unreliable/Reliable; Insincere/Sincere) (Ohanion 1990). Table 1 contains the complete list of the scales utilized in the pretests and main studies.

Table 1. Measurement scales for pre-tests, Study 2 and Study 3

Measure	Scale	Source
Perceived legitimacy	Think about the book in the image. To what extent do you agree with the following statements? (1= strongly disagree; 7= strongly agree); I have a positive opinion about the book; I believe that the book follows government regulations; The book does a good job providing information; I think the book is honest; I think the book is necessary for our society.	Adapted from Chung, Berger and DeCoster (2016)
Expertise	Think about the author's description in the book. How much do you think the author is: Inexpert/Expert; Inexperienced/Experienced; Not Knowledgeable/Knowledgeable; Unqualified/Qualified; Unskiled/Skilled	Ohanian (1990)
Personal involvement	To me, the topic of the book is: Unimportant/Important Of no concern/Of concern Irrelevant/Relevant	Jimenez, Gammoh, and Wergin (2020)
Vaccine Hesitancy	To what extent do you agree with the following statements? (1= strongly disagree; 7= strongly agree); I think vaccines are important for my health; I think vaccines are effective; I think getting vaccines is a good way to protect myself from diseases	Shapiro et al. (2018)

Descriptive statistics (Table 2) indicated that the third mock-up scored the highest perceived trustworthiness (M = 5.63; SD = 1.09). Thus, it was employed in our further studies.

Table 2. Trustworthiness mean scores of marketplaces layouts in Pre-test 1

Layout	N	Mean	SD
Layout 1	26	5.05	1.06
Layout 2	26	5.08	.99
Layout 3	24	5.63	1.09
Layout 4	24	5.33	1.09
Total	100	5.26	1.07

Pre-test 2

The manipulation of the independent variable (i.e. presence vs. absence of authors' credentials) was successively tested in a second pre-test. We developed our stimuli to create a realistic online marketplace interface. In particular, we selected five of the 28 previously identified vaccine misinformation books and created a marketplace page for each of the books containing a) the book's cover; b) the book's title and author's name; c) a brief author description and d) the book description. Our manipulation consisted of including (vs. excluding) the medical credentials of the authors. Specifically, in the presence of expert cues condition, we provided information about the author's education (e.g. attended university, graduation year) while in the absence of expert cues condition we reported other information about the authors, mainly regarding their personal life (e.g. hobbies, private life). In each case, only real information about the authors, as provided by the authors in their Amazon profile was used. The final set of stimuli included five books in the absence of credentials condition and the same five books in the presence of credentials condition.

This second pre-test involved 100 respondents recruited from the Prolific online panel (female 40%; M_{age} = 34.24, SD = 12.22). The pre-test resulted in a 2 (presence vs. absence of expert cues) x 1 between-subject design, testing the impact of expert cues on the perceived source (author) expertise. Respondents were randomly assigned to one condition. In order to align better the pre-test to the aim of the study, we slightly changed the scenario presented in the pre-test. The scenario read: *"Imagine you are at home.*

While scrolling your Facebook feed, you notice that someone has shared a link in a group you belong to. The link is about a book. As you are willing to read a book in your free time, you decide to click on the link. The link redirects you to this web page. Please, look carefully at the image and pay attention to the description of the book and the author. Then, answer the following questions.". Then, respondents rated the author's expertise on a five-item semantic differential 7-points Likert scale (*Inexpert/Expert; Inexperienced/Experienced; Not knowledgeable/Knowledgeable; Unqualified/Qualified; Unskilled/Skilled*) (Ohanian 1990). Finally, in order to control for possible previous knowledge bias, we asked participants to express whether they already knew the book. A one-way ANOVA was performed to test the effect of presence vs. absence of expert cues on perceived author's expertise. Results show that the manipulation was effective as participants in the absence of expert cues condition expressed lower author expertise (M_{ac} = 4.45) than their counterparts in the presence of cues condition (M_{pc} = 5.70), so that the credentials have a significant positive effect on perceived author expertise ($F(1,98) = 26.42$; $p<.001$). Follow-up analyses for each of the 5 books showed that the manipulation was not effective for only one of the five books, thus we decided to drop this book for Study 2.

Study 3

Pre-test 3

Following on the previous study, we created additional stimuli for two of the books used as stimuli for Study 2 in a social media context. The two factual books were selected among those identified in Study 1. Consistently with our qualitative study, we adopted Facebook as the context for this study. We created the Facebook post resembling the latest layout of the social media. The post was in the form of a sponsored post in which we included the cover of the book, its title and a brief decription of both the book and its author (adapted from the ones used in Study 2). Expert cues were operationalized as credentials in this Study, using the same approach of Study 2. The manipulation of the expert cues was realized by either including (vs. excluding) the author's credentials from the Facebook post. The effectiveness of this manipulation was pretested.

The pre-test involved 80 US consumers recruited from the Prolific online panel (female 75%; M_{age} = 28.21, SD = 10.12). The pre-test resulted in a 2 (presence vs. absence of expert cues) x 1 between-subject design, testing the impact of credentials on the perceived expertise of the author. Respondents were randomly assigned to one condition. Respondents were presented with the following scenario description: "In the next page, we will show you a sponsored Facebook post promoting recently published books. Spend some time looking at the post and the information about the book, such as the title of the book, its description and the information about its authors. Next, we will ask you some questions about the author". Then, respondents were asked to evaluate the perceived author's expertise on a five-item semantic differential 7-points Likert scale ($\alpha = 0.95$; Ohanian 1990). Finally, as in the previous studies, we asked participants to express whether they already knew the book. A one-way ANOVA was performed to test the effect of the presence vs. absence of expert cues on author's expertise. Results show that the manipulation was effective as participants in the absence of cues condition expressed lower perceived author's expertise (M_{ab} = 4.41) than their counterparts in the presence of expert cues condition (M_{pb} = 5.12), so that credentials have a significant positive effect on product popularity ($F(1,79) = 10.93$; $p<.001$).

Stimuli for Pretest 1

Figure 1: Layout 1

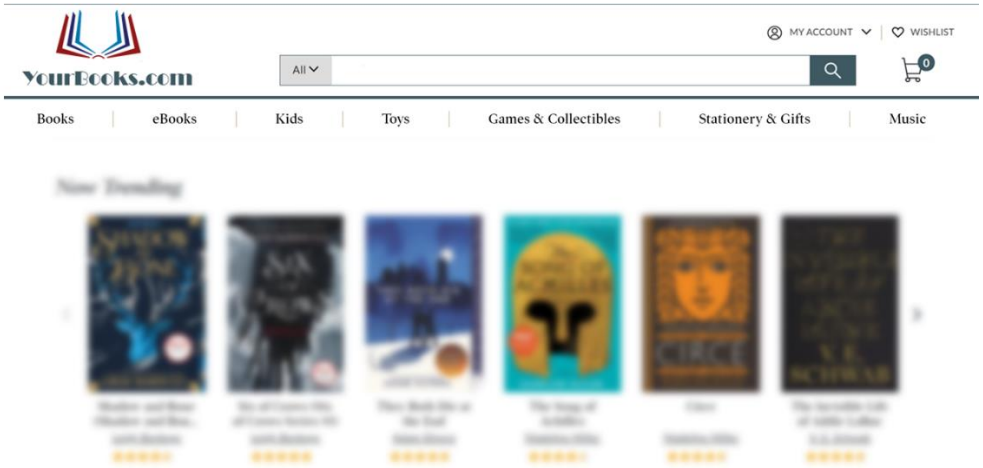


Figure 2: Layout 2

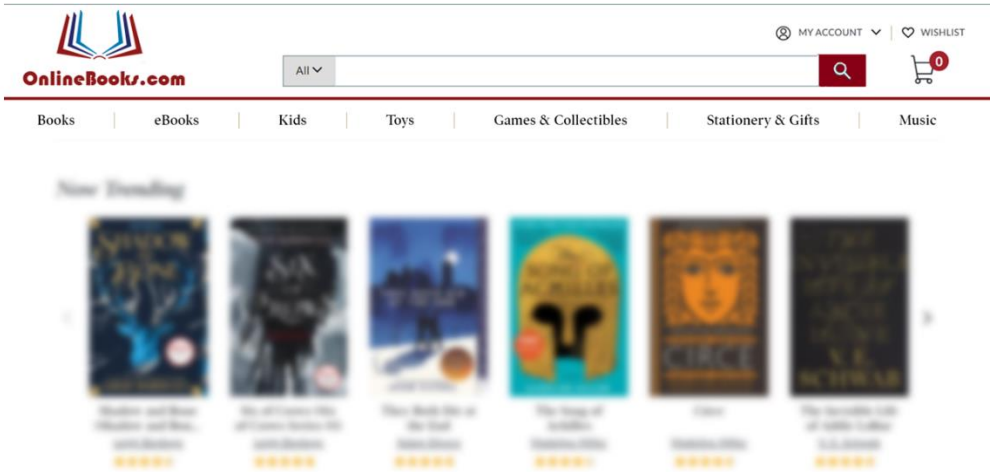


Figure 3: Layout 3

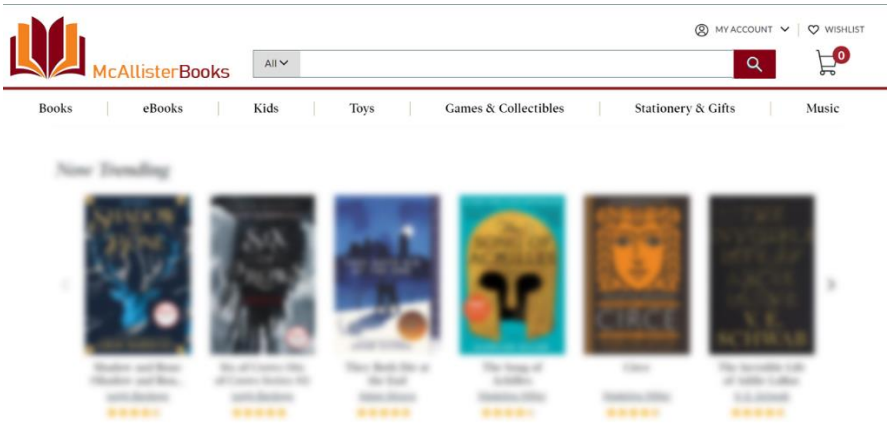
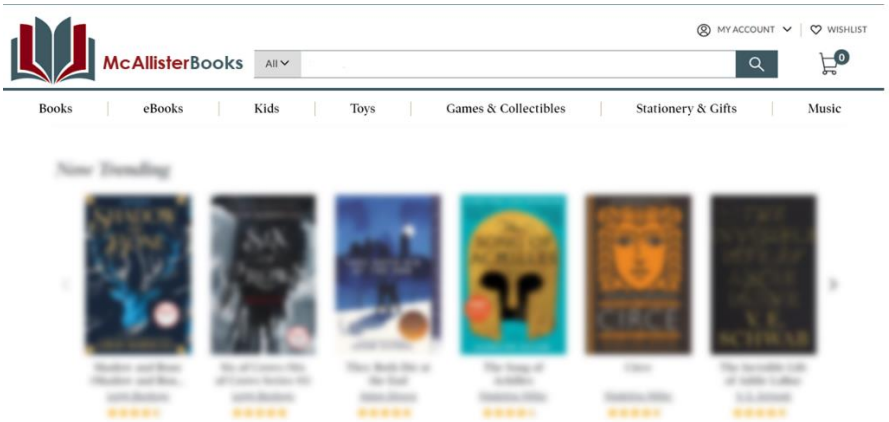


Figure 4: Layout 4



Stimuli For Pre-Test 2

Figure 5: Book#1– Presence of Expert cues

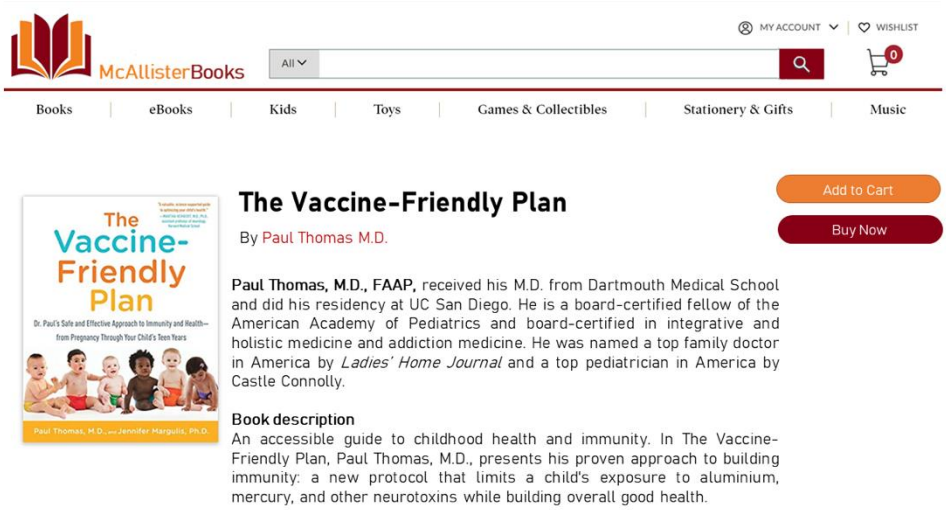


Figure 6: Book#1 - Absence of Expert cues

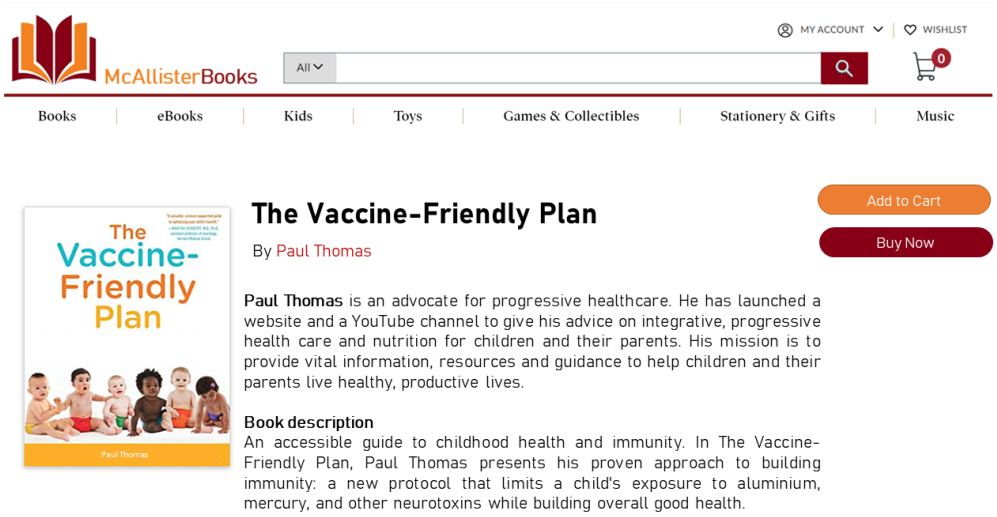


Figure 7: Book#2 - Presence of Expert cues

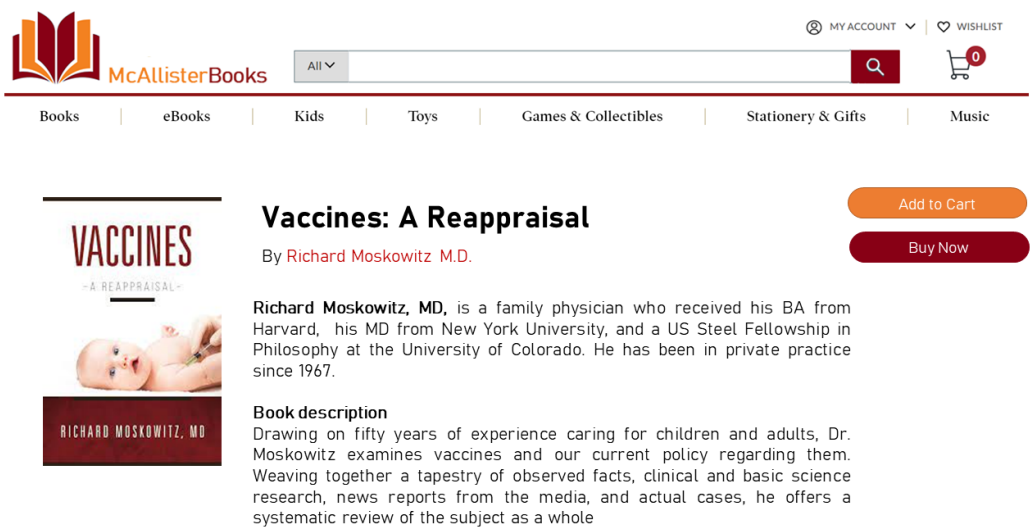


Figure 8: Book#2 - Absence of Expert cues

Figure 9: Book#3 – Presence of Expert cues

Figure 10: Book#3 - Absence of Expert cues

Figure 11: Book#4– Presence of Expert cues

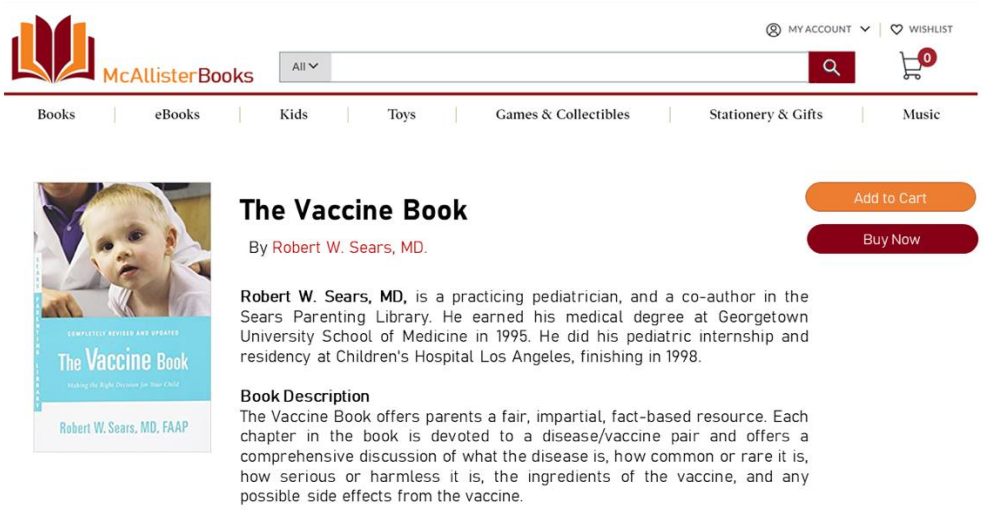


Figure 12: Book#4 – Presence of Expert cues

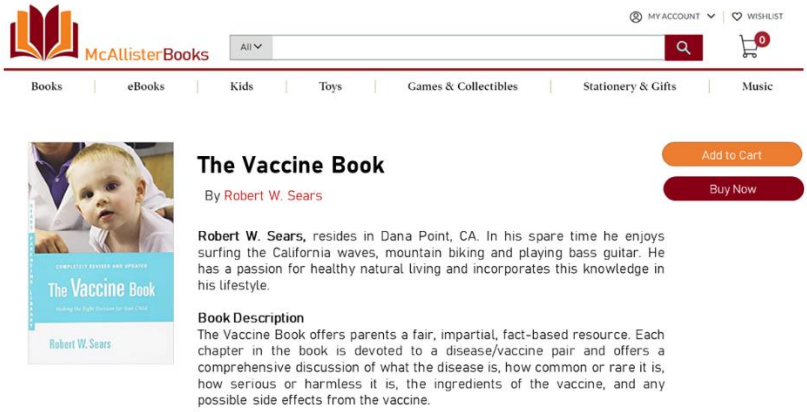


Figure 13: Book#5– Presence of Expert cues

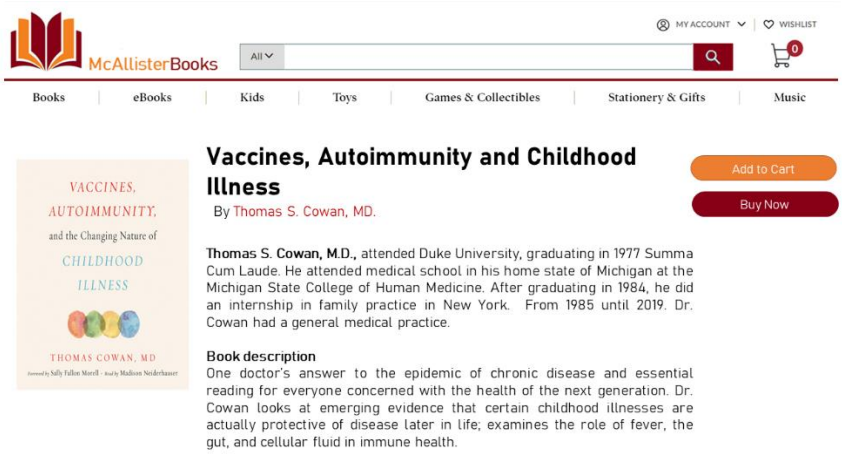
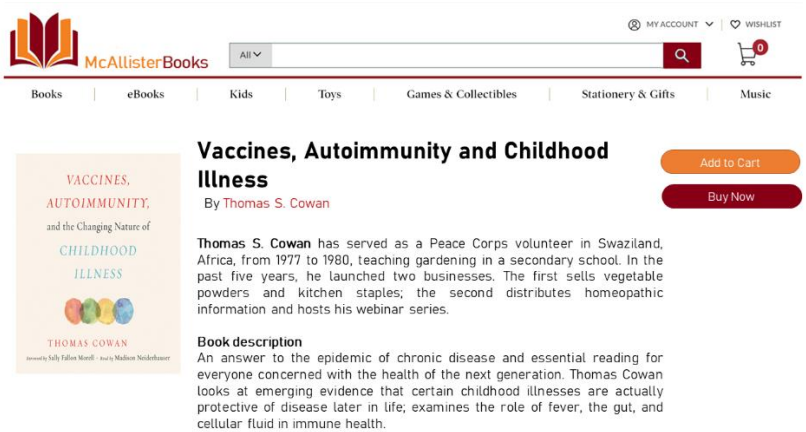


Figure 14: Book#5 - Absence of Expert cues



Stimuli For Pre-Test 3

Figure 15: Book #1– Presence of Credentials

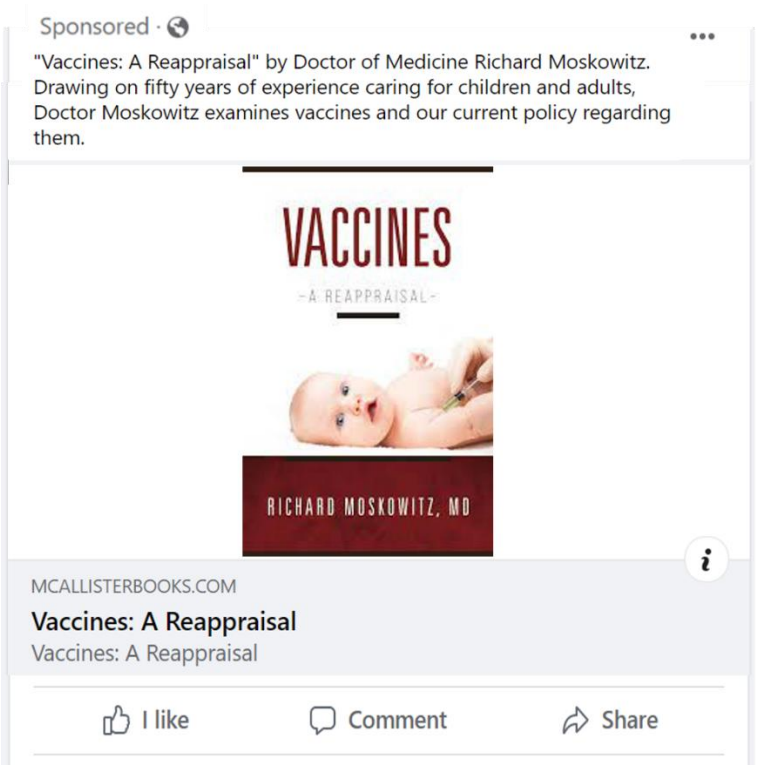
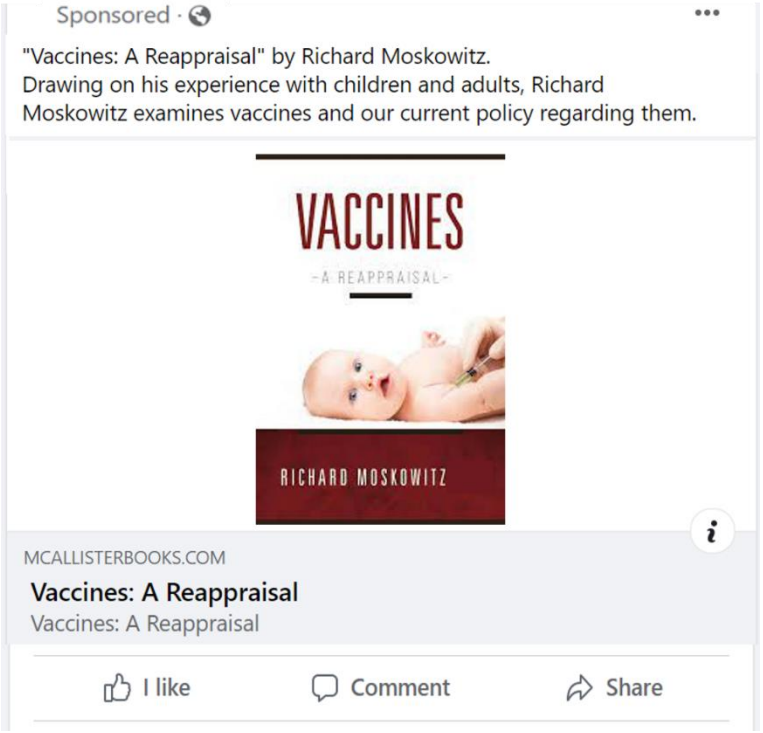


Figure 16: Book #1– Absence of expert cues



15.Appendix 3 – Ethics forms

FAVOURABLE ETHICAL OPINION – Paper 4 (Studies 2 and 3)

Study Title: Investigating the legitimating role of online marketplaces as sources of health misinformation on social media

Reference Number: BAL/2020/50/DIDOMENICO

Date Resubmitted: 14/01/2021

Thank you for resubmitting your application to the Faculty Ethics Committee and for making the requested changes/ clarifications.

I am pleased to inform you that the Faculty Ethics Committee was content to grant a favourable ethical opinion of the above research on the basis described in the submitted documents listed at Annex A, subject to standard general conditions (*See Annex B)*.

The Ethics Committee have also advised that the following comments are advisory matters and ask that these are taken into consideration in relation to this research and any future follow-on research undertaken.

1) Applicant might like to consider how descriptive the title is of the content of the research, since vaccines aren't specifically mentioned in it, and the meaning of 'marketplaces' could perhaps be clearer.

2) Applicant might like to also consider the 'other side of the coin' in writing up and / or in future research, i.e. to what extent hesitancy about vaccination is the result of genuine concerns, and not necessarily just online misinformation.

Please be aware that due to the current COVID-19 outbreak all face to face data collection has currently been suspended by the University. You will not be able to start face-to-face data collection until this suspension has been lifted.

Please note that the favourable opinion of the Faculty Ethics Committee does not grant permission or approval to undertake the research/ work. Management permission or approval must be obtained from any host organisation, including the University of Portsmouth or supervisor, prior to the start of the study.

Wishing you every success in your research

Peter Scott, Chair of the Faculty of Business and

Law Ethics Committee

Annexes

A - Documents reviewed

B - After ethical review

ANNEX A Documents reviewed

The documents ethically reviewed for this application

Document	*Version*	*Date*
Application form	V1	04/12/2020
Invitation Letter	V1	04/12/2020
Participant Information Sheet	V1	04/12/2020
Consent Form	V1	04/12/2020
Survey Instrument	V1	04/12/2020
Application form	V2	14/01/2021
Invitation Letter	V2	14/01/2021
Participant Information Sheet	V2	14/01/2021
Consent Form	V2	14/01/2021
Survey Instrument	V2	14/01/2021

ANNEX B - After ethical review

1. This Annex sets out important guidance for those with a favourable opinion from a University of Portsmouth Ethics Committee. Please read the guidance carefully. A failure to follow the guidance could lead to the committee reviewing and possibly revoking its opinion on the research.

2. It is assumed that the work will commence within 1 year of the date of the favourable ethical opinion or the start date stated in the application, whichever is the latest.

3. The work must not commence until the researcher has obtained any necessary management permissions or approvals – this is particularly pertinent in cases of research hosted by external organisations. The appropriate head of department should be aware of a member of staff's plans.

4. If it is proposed to extend the duration of the study beyond that stated in the application, the Ethics Committee must be informed.

5. Any proposed substantial amendments must be submitted to the Ethics Committee for review. A substantial amendment is any amendment to the terms of the application for ethical review, or to the protocol or other supporting documentation approved by the Committee that is likely to affect to a significant degree:

(a) the safety or physical or mental integrity of participants

(b) the scientific value of the study

(c) the conduct or management of the study.

5.1 A substantial amendment should not be implemented until a favourable ethical opinion has been given by the Committee.

6. At the end of the work a final report should be submitted to the ethics committee. A template for this can be found on the University Ethics webpage.

7. Researchers are reminded of the University's commitments as stated in the Concordat to Support Research Integrity viz:

• maintaining the highest standards of rigour and integrity in all aspects of research • ensuring that research is conducted according to appropriate ethical, legal and professional frameworks, obligations and standards

• supporting a research environment that is underpinned by a culture of integrity and based on good governance, best practice and support for the development of researchers • using transparent, robust and fair processes to deal with allegations of research misconduct should they arise

• working together to strengthen the integrity of research and to reviewing progress regularly and openly.

8. In ensuring that it meets these commitments the University has adopted the UKRIO Code of Practice for Research. Any breach of this code may be considered as misconduct and may be investigated following the University Procedure for the Investigation of Allegations of Misconduct in Research. Researchers are advised to use the UKRIO checklist as a simple guide to integrity.

FAVOURABLE ETHICAL OPINION – Paper 4 (Study 1)

Study Title: Marketplaces of misinformation: measuring the role of online marketplaces in seeding vaccine misinformation on social media

Reference Number: 2020/48/DI DOMENICO

Date Resubmitted: 14th December 2020

Thank you for resubmitting your application to the Faculty Ethics Committee and for making the requested changes/ clarifications.

I am pleased to inform you that the Faculty Ethics Committee was content to grant a favourable ethical opinion of the above research on the basis described in the submitted documents listed at Annex A, subject to standard general conditions (*See Annex B)*.

Please be aware that due to the current COVID-19 outbreak all face to face data collection has currently been suspended by the University. You will not be able to start face-to-face data collection until this suspension has been lifted.

Please note that the favourable opinion of the Faculty Ethics Committee does not grant permission or approval to undertake the research/ work. Management permission or approval must be obtained from any host organisation, including the University of Portsmouth or supervisor, prior to the start of the study.

Wishing you every success in your research

Peter Scott, Chair of the Faculty of Business and Law Ethics Committee

Annexes

A - Documents reviewed B - After ethical review

ANNEX A **Documents reviewed**

The documents ethically reviewed for this application

Document	*Version*	*Date*
Application form	V1	25.11.2020
Other – please describe (CrowdTangle acceptance and Terms of Use of the Service)	V1	25.11.2020
Application form	V2	14.12.2020
Other – please describe (CrowdTangle acceptance and Terms of Use of the Service)	V2	14.12.2020

ANNEX B - After ethical review

1. This Annex sets out important guidance for those with a favourable opinion from a University of Portsmouth Ethics Committee. Please read the guidance carefully. A failure to follow the guidance could lead to the committee reviewing and possibly revoking its opinion on the research.
2. It is assumed that the work will commence within 1 year of the date of the favourable ethical opinion or the start date stated in the application, whichever is the latest.
3. The work must not commence until the researcher has obtained any necessary management permissions or approvals – this is particularly pertinent in cases of research hosted by external organisations. The appropriate head of department should be aware of a member of staff's plans.
4. If it is proposed to extend the duration of the study beyond that stated in the application, the Ethics Committee must be informed.
5. Any proposed substantial amendments must be submitted to the Ethics Committee for review. A substantial amendment is any amendment to the terms of the application for ethical review, or to the protocol or other supporting documentation approved by the Committee that is likely to affect to a significant degree:

    (a) the safety or physical or mental integrity of participants

    (b) the scientific value of the study

    (c) the conduct or management of the study.

5.1 A substantial amendment should not be implemented until a favourable ethical opinion has been given by the Committee.

6. At the end of the work a final report should be submitted to the ethics committee. A template for this can be found on the University Ethics webpage.
7. Researchers are reminded of the University's commitments as stated in the Concordat to Support Research Integrity viz:

    - maintaining the highest standards of rigour and integrity in all aspects of research

- ensuring that research is conducted according to appropriate ethical, legal and professional frameworks, obligations and standards
- supporting a research environment that is underpinned by a culture of integrity and based on good governance, best practice and support for the development of researchers
- using transparent, robust and fair processes to deal with allegations of research misconduct should they arise
- working together to strengthen the integrity of research and to reviewing progress regularly and openly.

8. In ensuring that it meets these commitments the University has adopted the UKRIO Code of Practice for Research. Any breach of this code may be considered as misconduct and may be investigated following the University Procedure for the Investigation of Allegations of Misconduct in Research. Researchers are advised to use the UKRIO checklist as a simple guide to integrity.

FAVOURABLE ETHICAL OPINION – Paper 3

Study Title: Free but fake speech: the roles of information presentation, perceived legitimacy and poster status in consumer responses to fake news on social media

Reference Number: BAL/2020/22/DOMENICO

Date Resubmitted: 08/06/2020

Thank you for resubmitting your application to the Faculty Ethics Committee and for making the requested changes/ clarifications.

I am pleased to inform you that the Faculty Ethics Committee was content to grant a favourable ethical opinion of the above research on the basis described in the submitted documents listed at Annex A, subject to standard general conditions (*See Annex B)*.

Please be aware that due to the current COVID-19 outbreak all face to face data collection has currently been suspended by the University. You will not be able to start face-to-face data collection until this suspension has been lifted.

Please note that the favourable opinion of the Faculty Ethics Committee does not grant permission or approval to undertake the research/ work. Management permission or approval must be obtained from any host organisation, including the University of Portsmouth or supervisor, prior to the start of the study.

Wishing you every success in your research

Peter Scott, Chair of the Faculty of Business and

Law Ethics Committee

Annexes

A - Documents reviewed

B - After ethical review

ANNEX A Documents reviewed

The documents ethically reviewed for this application

Document	*Version*	*Date*
Application form	1	01/05/2020
Application form	2	26/05/2020

Application form	3	05/06/2020
Participant Information Sheet(s)	1	01/05/2020
Participant Information Sheet(s)	2	26/05/2020
Participant Information Sheet(s)	3	05/06/2020
Consent Form(s)	1	01/05/2020
Consent Form(s)	2	26/05/2020
Consent Form(s)	3	05/06/2020
Survey Instrument	1	01/05/2020
Survey Instrument	2	26/05/2020
Survey Instrument	3	05/06/2020

ANNEX B - After ethical review

1. This Annex sets out important guidance for those with a favourable opinion from a University of Portsmouth Ethics Committee. Please read the guidance carefully. A failure to follow the guidance could lead to the committee reviewing and possibly revoking its opinion on the research.

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(a) the safety or physical or mental integrity of participants

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