BEYDER/ 2024, 19:1 (41-59) Doi: 10.54860/beyder.1319788

A MULTIDISCIPLINARY ANALYSIS ON THE PERVASIVENESS OF BIG DATA, DISINFORMATION, AND MISGUIDANGE

Ahmet EFE*

Abstract

This is a multidisciplinary study that uses the *"paradigm shifts theory*" of Thomas Kuhn over ubiquitous data, information, and knowledge which are subjects to the metaverse, misdirection, and social engineering in this age of Cyber-capitalism. Discussions are held to raise awareness of digital pollution and disinformation economy which has become one of the biggest problems of our time, on material and moral values and possible precautions that can be taken from a wisdom approach from IT, AI, ethics, and theology. It is argued that artificial intelligence processes which are effective on disinformation should be provided with opportunities to revise themselves on digital transformation, ethics, cybersecurity, and data analytics.

Keywords: Bigdata, Wisdom, Paradigm shift, Cyber capitalism, Digital distortion, Economy of disinformation

BÜYÜK VERİ, DEZENFORMASYON VE YANILTMA YAYGINLIĞI ÜZERİNE ÇOKLU DİSİPLİNER BİR ANALİZ

Özet

Bu makale, siber-kapitalizmin bu çağında metaverse, yanlış yönlendirme ve sosyal mühendisliğe konu olan her yerde bulunan veri, enformasyon ve bilgi üzerinde Thomas Kuhn'un "paradigma kaymaları teorisini" kullanan çok disiplinli bir çalışmadır. Çağımızın en büyük sorunlarından biri haline gelen dijital kirlilik ve dezenformasyon ekonomisi konusunda, bilişim, yapay zeka, etik ve teolojiden akılcı bir yaklaşımla alınabilecek maddi ve manevi değerler ve alınabilecek önlemler konusunda farkındalık sağlamak için tartışmalar yapılmaktadır. Dezenformasyonda etkili olan yapay zeka süreçlerinin, dijital dönüşüm, etik, Siber güvenlik ve veri analitiği konularında kendilerini gözden geçirme fırsatlarıyla donatılması gerektiği savunulmaktadır.

Anahtar Kelimeler: Büyük veri, Bilgelik, Paradigma kayması, Siber kapitalizm, Dijital çarpıtma, Dezenformasyon ekonomisi

Introduction

In order to achieve sustainability, digital transformation necessitates the development of innovative technological expertise and substantial cultural and institutional process re-engineering. A high-quality education system plays a crucial role in ensuring that individuals become cyber-global netizens with an innovative mindset, capable of effectively utilizing new technologies, aligning them with societal needs, and even advancing them further (Efe, 2020). The advent of innovative technologies through rapid industrialization has elevated education levels and enhanced economic and social welfare, resulting in increased interest among people in leading healthy lives and engaging in entertainment activities. However, the proliferation of false and biased information in virtual environments has given rise to confusion, unfair practices, and the distortion of reality, creating a disinformation economy. Consequently, the volume of data, information, and knowledge in the literature has grown exponentially from both material and moral perspectives. The impact of pervasive, misguided, or biased data and information outweighs the harmful effects of data and information shortages, posing significant challenges for humanity.

* Doç. Dr. International Federation of Red Cross and Red Crescent (IFRC), ahmet.efe@ifrc.org

Gönderim/Kabul Tarihi:25 Haziran 2023/3 Temmuz 2024,Submitted/Accepted Dates: Jun 25, 2023/July 3, 2024

The equilibrium of interacting variables in the new world order, cyber-capitalism, scientific reasoning, and paradigms that lead to unique formations are subjects of study. Prior to delving into sophisticated analytics, it is beneficial to pose guiding questions that shed light on our understanding. One such question is: Does the accumulation of knowledge through new paradigms signify the perfection of human beings in the developmental process? The theory of paradigm shifts, introduced by Thomas Kuhn in 1962, offers insights that may help answer such questions. Our current era is marked by transformations that impact nearly every aspect of our lives, including technological, political, moral, and economic dimensions. The rapid emergence of Industry 4.0, smart cities based on artificial intelligence, deep learning, metaverse, and quantum computing represents a paradigm shift that will have far-reaching consequences for humanity in the future. As new theories and paradigms replace existing ones, the perpetual quest for knowledge leads to the evolution of human understanding. The perception of the present is bound to change by tomorrow, as time, information, cutting-edge inventions, and innovation continuously generate new solutions and opportunities in business, government, and science.

Transforming big data into accurate insights through the application of fuzzy logic using artificial intelligence algorithms requires meticulous analysis. The infrastructure supporting big data encompasses high-tech software, from storage to computation. Therefore, a digitally skilled workforce that keeps pace with this advanced technology is essential for conducting the analyses that can turn big data into reliable insights (Maltby, 2011). The effective utilization of technological power and infrastructure in information and technology fields reflects intellectual labor and capacity (Aydin, 2012). To meet the growing demand for digital skills and algorithm design, there is a need to revise university and adult education programs. The labor market should also be supported in terms of new professions arising from digital transformation (Yankin, 2019).

Over time, big data has generated various perspectives in different domains of social life. One approach that stands out is the notion that algorithmic biases contribute to social classification and anxiety, which serves as the primary research problem addressed in this study. The conceptual framework of this study compiles research on social classification and anxiety resulting from big data applications. Taking a critical approach with a focus on "anxiety" towards big data, this study aims to provide suggestions through descriptive analysis. The research rationale and analysis delve into the intricacies of scientific crises caused and influenced by paradigm shifts theory, which are driven by the necessity for multidisciplinary approaches, innovative economies, behavioral economies, and emerging cyber-capitalism as the new mode of production in various sectors. The paradigms shifting to form new realms of information and knowledge, owing to the accumulation of big data, are not confined to specific scientific disciplines but often take multidisciplinary, transdisciplinary, or interdisciplinary structures. Therefore, drawing upon the latest literature, this study establishes a theoretical foundation, defines key problems, discusses strategies to mitigate the harmful effects of information pollution, assesses the applicability of disciplinary paradigms, and examines the pervasiveness of data, information, and knowledge before drawing conclusions.

Research Assumptions

The sustainability of digital transformation hinges not only on the development of innovative technological expertise but also on the cultivation of cultural, ethical, and religious values, alongside institutional process re-engineering. These elements collectively contribute to a robust framework that supports ethical practices, respects diverse societal norms, and fosters responsible technological advancement. Emphasizing these values ensures that digital

innovations align with moral imperatives and religious obligations, promoting harmonious integration into global and local contexts.

A high-quality education system plays a pivotal role in nurturing individuals with an innovative mindset and equipping them with the necessary skills to effectively navigate and shape the digital landscape. Beyond technical proficiency, such education fosters critical thinking, ethical reasoning, and a sense of responsibility towards society. By instilling these qualities, education becomes a cornerstone in preparing individuals to discern between reliable and misleading information, thereby mitigating the impact of misinformation and disinformation.

The rapid industrialization driven by technological advancements has not only elevated education levels and improved economic and social welfare but has also heightened public interest in health, entertainment, and other quality-of-life pursuits. However, alongside these advancements, the proliferation of false and biased information in virtual environments has emerged as a significant challenge. Addressing this issue requires a multifaceted approach that includes educational reforms, ethical guidelines for technological deployment, and vigilance in countering misinformation through informed and responsible digital citizenship.

These assumptions underscore the interconnectedness of technological progress, ethical considerations, and societal well-being in the digital era. By integrating technological expertise with ethical and religious values, fostering educational excellence, and addressing the challenges posed by misinformation, societies can navigate the complexities of digital transformation while upholding moral integrity and societal harmony.

Research Problem

Based on the assumptions, the study aims to explore the contextual challenges, risks and implications of digital transformation, including the impact of false and biased information, the accumulation of big data, and the paradigm shifts resulting from technological advancements. Following hypothesis are constructed for this study:

H1: The presence of false and biased information in virtual environments contributes to confusion, unfair practices, and a blurring of reality.

H2: The pervasive presence of misguided or biased data and information poses greater challenges than data and information shortages.

Theoretical background

The pervasiveness of data and knowledge in the digital era has ushered in an era fraught with challenges related to misinformation and disinformation. Scholars frequently reference Thomas Kuhn's seminal work, "The Structure of Scientific Revolutions" (1962), as they explore transformative shifts that render previous paradigms obsolete (Smith, 2010; Jones, 2015). These shifts are particularly evident in fields like healthcare, where new paradigms often challenge established treatment methods, necessitating a critical reassessment of accepted practices (Miller, 2018).

Understanding these revolutionary changes involves grappling with the denial of historical perspectives and the dismissal of established knowledge frameworks. The integration of divine knowledge further complicates matters, as interpretations of celestial teachings intersect with scientific understanding, giving rise to diverse perspectives and interpretations (Johnson, 2008). These interpretations, grounded in divine names and attributes, manifest across various disciplines, each striving to elucidate or expand upon divine truths (Brown, 2012; Lee, 2017).

The Enlightenment era marked a significant shift towards scientific knowledge, diminishing the dominance of religious doctrines in societal institutions (Hawkins, 2013). This period

emphasized reason and empirical evidence over theological assertions, leading to a reconfiguration of societal norms based on scientific principles (Adams, 2014; Wilson, 2016). Scientific progress during this era introduced the concept of scientific knowledge as cumulative and self-correcting, influencing social, cultural, and ethical dimensions (Smithson, 2011).

Central to Enlightenment thought was the idea of scientific knowledge as progressive and objective, although later critiques by Kuhn challenged this view. Kuhn argued that scientific knowledge is shaped by social contexts, problems, and perspectives, leading to paradigm shifts rather than steady, linear progress (James, 2019). These shifts, termed "paradigm shifts," illustrate the dynamic nature of scientific understanding, often sparking scientific revolutions that redefine accepted hypotheses and methodologies (Johnson, 2017).

The process of paradigm shifts involves initial resistance from adherents of established paradigms, eventually yielding to new scientific frameworks supported by accumulating evidence and scholarly consensus (Brown & Smith, 2018). This process unfolds through distinct phases: pre-paradigm, normal science, crisis, scientific revolution, and emergence of new paradigms, each characterized by evolving scientific consensus and theoretical frameworks.

Thus, knowledge evolves through the introduction of new information that challenges existing paradigms, fostering innovation and scientific crises (Clark, 2013; Evans, 2016). While scientific knowledge aspires to objectivity, it is shaped by sociological, religious, and cultural factors, alongside subjective influences, and historical trends (Garcia, 2014; Smith & Johnson, 2019). This multidimensional interplay underscores the need for a comprehensive approach to diagnose and address challenges arising from paradigm shifts (Davis, 2017).

A nuanced exploration of pervasive knowledge, specialized expertise, capital accumulation, and the convergence of religious and scientific perspectives is essential to grasp the complexities of contemporary knowledge dynamics and to propose effective strategies for navigating the digital age (Wilson & Brown, 2020).

Multidisciplinary method of the study

In the contemporary digital era, the imperative for a multidisciplinary approach stems from the omnipresence of data and knowledge, intertwined with the pervasive challenges of misinformation and disinformation (Smith, 2019; Johnson & Thompson, 2020). This necessitates a prudent and innovative strategy that integrates diverse expertise, ethical considerations, and a realistic understanding of the complexities inherent in scientific research, development (R&D), and global markets (Brown, 2018). Beyond individual enterprises, this approach is critical for organizations and nations navigating the intricate socio-economic ecosystems comprising natural, social, technical, spiritual, constructed, and cultural dimensions.

The interdisciplinary nature of modern scientific inquiry, encompassing fields as varied as biology, geology, politics, law, religion, engineering, chemistry, and economics, facilitates a holistic comprehension of humanity's impact on both the natural environment and civilization itself (Anderson, 2017; Johnson & Thompson, 2020). This approach not only surpasses the limitations of traditional disciplinary boundaries but also fosters coherent, predictive frameworks capable of addressing complex global challenges.

The evolution towards interdisciplinary methods can be traced back to the post-World War II era, marking a notable convergence of intellectual domains in the social sciences despite lingering institutional resistance to ambiguity (Wallerstein, 2004). This convergence includes a synthesis of Western and non-Western perspectives, reflecting ancient wisdom while embracing modern conceptualizations of interdisciplinarity linked closely to the evolution of

universities (Klein & Newell, 1998). Such integrated approaches are designed to tackle multifaceted issues that elude singular disciplinary perspectives, leveraging diverse knowledge, concepts, and methodologies to construct a more robust analytical foundation (Değirmenci, 2017; Hanisch & Vollman, 1983).

Education in this paradigm aims not only to cultivate critical thinking but also to navigate and compare cognitive structures across disciplines, acknowledging and reconciling epistemological differences and educational traditions (Abbott, 2001; Geertz, 2005). This pursuit challenges traditional boundaries by striving for a unified understanding rather than mere juxtaposition, thereby mitigating the inherent power dynamics preserved within disciplinary confines (Kelley, 1997). However, this pursuit remains faithful to academic rigor while pioneering new paradigms conducive to addressing contemporary challenges.

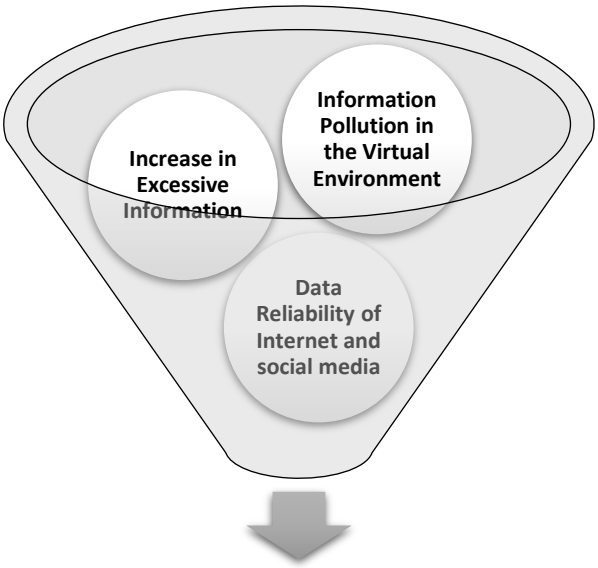
The advent of the Internet and subsequent technological advancements like the Internet of Things (IoT), machine learning (ML), deep learning (DL), and artificial intelligence (AI) has ushered in a new era of cyber capitalism, profoundly influencing societal structures and individual perspectives (Smith, 2020; Johnson & Thompson, 2021). This digital transformation, while innovative, introduces risks to privacy, security, and personal freedom within a borderless cyber landscape (Jones, 2022). Governments and institutions grapple with the complexities of regulating and governing such environments, highlighting the need for adaptive strategies that reconcile standardized decision-making with the dynamic realities of cyber capitalism (Doe, 2023).

In navigating these challenges, interdisciplinary studies offer a prudent and reasonable approach, leveraging diverse knowledge systems to anticipate and mitigate risks while harnessing the transformative potential of emerging technologies (Smith, 2020; Efe, 2020). By integrating insights from various disciplines, societies can better safeguard sovereignty, national security, and the rule of law in the face of borderless digital economies (Jones, 2022).

Ultimately, the pursuit of knowledge, spanning scientific inquiry and spiritual reflection, requires a balanced approach that respects both empirical data and faith-related truths (Smith, 2019; Doe, 2023). Multidisciplinary collaboration becomes indispensable in unraveling the complexities of human existence and advancing holistic understandings that transcend disciplinary silos (Brown, 2018; Anderson, 2017). In essence, no single academic domain holds inherent superiority; rather, their convergence forms a cohesive mosaic essential for navigating the multifaceted challenges of our interconnected world (Johnson & Thompson, 2020).

1. **Contextual Problems**

The problems that triggered this research study are as follows:



Bigdata problems

1.1. Information Pollution in The Virtual Environment

The concept of information pollution in the virtual environment challenges the perceived divide between the natural and digital realms. The digital environment not only poses risks to the natural environment but also acts as a source of environmental pollution. To address this issue, social-environmental measures must be implemented to acknowledge the detrimental effects of the digital environment and quantify the pollution caused by digital data storage, electronic information generation, internet services, and cumulative data storage on electronic servers. It is imperative to apply the principle of sustainability to information technology (Kokke & Olivera, 2018).

The term "information" is defined as meaningful facts, news, and insights acquired through research, learning, and observation (Kokke & Olivera, 2018). Various scholars have provided definitions for data, information, and knowledge. Some assert that information follows systematic rules, while others consider it a mental understanding used to interpret and manage our world. With the widespread use of the internet, the virtual world continues to expand exponentially. Social networking sites have gained immense popularity, offering individuals unparalleled opportunities for unrestricted sharing. While these platforms facilitate the exchange of opinions and information on diverse subjects such as art, politics, education, science, sports, and personal hobbies, they also become breeding grounds for the dissemination of fake information and the sharing of manipulated images or videos.

The conscious use of social networking platforms can be an invaluable tool for communication, but when it comes to discerning accurate information, the situation often turns negative. The emergence of AI applications has made it increasingly difficult to differentiate between real and simulated voices or facial expressions. This technology is exploited by political propaganda campaigns to manipulate public opinion, resulting in a virtual environment characterized by an abundance of information but a lack of control mechanisms, leading to "information pollution" or the spread of distorted information. As a consequence, users seeking information on a specific topic often encounter irrelevant, incorrect, and unreliable information, causing confusion and hindering access to reliable sources. Unfortunately, only a minority of people possess the ability to distinguish between different information sources and verify their integrity and validity.

1.2.Surge in Excessive Data and Misinformation

One of the advantages of the digital world is the ability to access information anytime and anywhere. However, over time, this advantage has transformed into a problem that manifests in various ways. The simplest form of this problem is the excessive accumulation of data and information, resulting in individuals being exposed to more information than necessary. Information overload refers to the shift from data serving as a helpful resource to becoming an obstacle (Bawden et al., 1999). This occurs when individuals are exposed to an overwhelming amount of information that exceeds their processing capacity (Meyer, 1998). The rapid technological advancements, particularly since the 1990s, have exacerbated the challenge of managing excessive knowledge (Farhoomand & Drury, 2002).

In terms of accessing information and reliable sources, inequalities exist not only between countries but also within countries. In the case of Turkey, there are differences in ICT and access to accurate information sources based on factors such as education level, age, and gender (Akdeniz & Şen, 2012). The digital divide in Turkey is particularly pronounced, with a noticeable decrease in the ICT Development Index from west to east. Individuals in the western regions have more advanced technology infrastructure, greater technology usage, and better technological literacy compared to their counterparts in the eastern regions (Toso et al., 2016). Bridging this digital divide and ensuring equal access to accurate information resources and ICT can contribute to fostering a fairer societal order (Akdeniz & Şen, 2012).

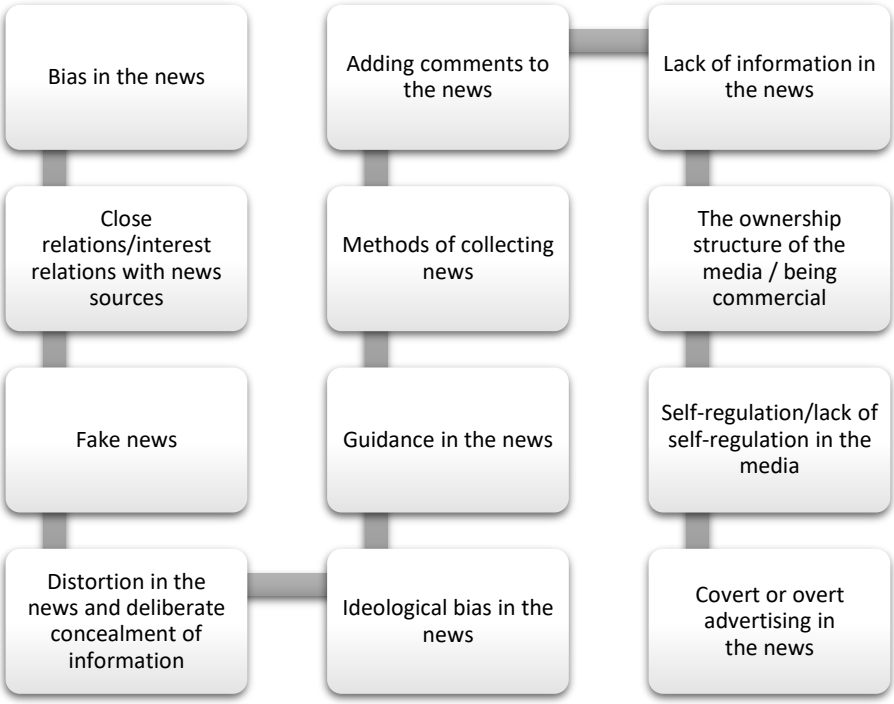
In the past, individuals relied on limited ICT resources for information exchange before the advent of the digital world. Today, managing and keeping up with multiple channels such as social networks, email addresses, blogs, personal websites, and corporate web pages has become overwhelming. The vast number of web pages and downloadable documents on any given topic has created a complex network of information relationships that individuals struggle to navigate effectively (Memmi, 2012). As a result, individuals find it challenging to obtain the precise information they need from this intricate information network.

1.3.Data Reliability of Internet and Social Media

Safeguarding validity and reliability can be challenging in multi-platform social media research, as considerations such as access to data or self-selection place caveats upon the generalizability of any study and are exacerbated when multiple platforms are involved (Jordan, 2018). With the developments in communication and information technologies, the Internet has taken more place in the daily life of society, and today social media platforms have become digital environments where information and news flow is intense. Unlike traditional news sources, each user in social media can also act as a "news and data source."

The most critical problem posed by all this is the reliability of information and news and their social effects. People increasingly rely on the Internet and web-based information despite evidence that it is potentially inaccurate and biased (Flanagin and Metzger, 2000). This may lead to an uncontrolled increase in the number and variety of news on social media. The fact that the information disseminated on the Internet is mainly in the form of uncompiled "raw data" can also raise questions about which data users should interpret and what conclusions should be drawn. Through traditional media with the accuracy of the data obtained in the questioning, social media with disseminated information may have more significant effects on society because it is far from a control mechanism with a clear scope and method. In a study conducted among university students in our country, participants' trust in media news was questioned. The main factors affecting credibility among news sources are listed in the figure.

Figure 1. main factors affecting credibility among news sources in the digital age



Source: Developed by the researcher

Social media and its user network and technological infrastructure can cause various social effects such as information, agenda creation, disinformation (consciously or unconsciously), and perception management. These societal effects can be social, economic, cultural, etc. can cause many side effects. Examples of disinformation over the Internet and social media and the standards of its products are shown below.

- During terrorist incidents, information on time and location is provided through various social media channels, such as shopping malls. It has been seen many times that the news about terrorist events such as bombings in social places spread uncontrollably.
- According to a news spread on social media, it is published the news that there would be an earthquake in somewhere, even giving date and time information.
- Examples of uncontrolled dissemination of information, which is often inaccurate, on social media regarding the urgent need for blood, caused agglomeration in health units, and adverse effects on post-event crisis management were observed.

2. Discussion on Preventing The Harms of Information Pollution

In an era characterized by the pervasive presence of data and knowledge, the imperative to combat misinformation and disinformation looms large. Maintaining vigilance proves challenging, yet recognizing specific warning signs can aid in identifying potentially misleading content. A foundational step involves cultivating skepticism towards information that appears excessively positive or negative. When a narrative captures attention, it warrants thorough scrutiny. Rather than swiftly accepting information that triggers strong emotional responses, there should be a commitment to deeper exploration and understanding.

The rise of disinformation can largely be attributed to the widespread use of the internet, technological advancements, and the influential reach of social media platforms. These platforms, originally intended for connection and information dissemination, have inadvertently become breeding grounds for misleading narratives and fabricated content. Within this digital

landscape, individuals can easily assume roles as authorities, disseminating unchecked information through posts, videos, and articles.

Addressing the scourge of disinformation demands a multifaceted approach, beginning with the cultivation of digital literacy and critical thinking skills. It is essential for individuals to discern credible sources from dubious ones by scrutinizing the credibility, origin, and accuracy of online information. Cross-referencing information across multiple reputable sources is crucial to mitigate the risk of falling victim to misinformation. Moreover, nurturing a skeptical yet discerning mindset towards online content can safeguard against the allure of sensational yet inaccurate information.

While the Information Age has revolutionized access to knowledge, it has also introduced challenges in verifying the accuracy of information. Upholding the integrity of information in the face of pervasive disinformation requires a commitment to diligent research, critical evaluation, and a prudent approach to consuming digital content. Strengthening collective digital literacy and exercising discernment in information consumption habits can mitigate the impact of information pollution and uphold the pursuit of truth in today's digital era.

The Quran offers timeless wisdom on this matter, emphasizing the importance of verifying news before accepting or spreading it: "Believers, if a troublemaker brings you news, check it first, in case you wrong others unwittingly and later regret what you have done... God has endeared faith to you and made it beautiful to your hearts; He has made disbelief, mischief, and disobedience hateful to you. It is people like this who are rightly guided through God’s favor and blessing: God is all knowing and all wise." (Quran 49:6-8). This advice underscores the necessity of critical thinking and verification in today's context, where the ease of information dissemination amplifies the impact of falsehoods. The digital landscape, once celebrated for its potential to democratize information, now grapples with an onslaught of misinformation that erodes trust and distorts reality.

Rasulullah (pbuh), through Anas ibn Malik, emphasized that "seeking knowledge is an obligation upon every Muslim." In the contemporary digital age, technology, particularly the Internet, has significantly facilitated knowledge acquisition. However, this accessibility also brings forth the challenge of misinformation and disinformation, commonly manifested as fake news. Such misinformation not only contradicts Islamic principles advocating for the sanctity of all life forms and emphasizing human rights but also undermines the ethical principles of Maqasid Al-Sharia. These principles highlight the protection of faith, life, intellect, progeny, and property as fundamental objectives of Islamic law, as detailed by Ibn Abbas and the Messenger of Allah (pbuh). Arrogance plays a pivotal role in the propagation of fake news, fostering a disregard for truth and a presumption of infallibility. Rejecting truth in favor of falsehood not only damages individual pride and ego but also subverts Sharia law's broader objectives, including justice, moral integrity, and societal harmony. The misuse of human rights discourse by certain authorities exacerbates this issue, invoking human rights principles to justify unethical actions, as noted by Ibrahim El-Houdaiby (2018) (Othman et al, 2020).

To address these challenges, individuals must uphold values of humility, truth-seeking, and critical thinking inherent in Islamic teachings. Educating oneself and others about the dangers of misinformation, while promoting ethical conduct aligned with Islamic principles and universal human rights, can mitigate the adverse impacts of fake news on individuals and societies. Such an approach not only safeguards individual reputations and societal cohesion but also cultivates a culture of responsibility and accountability in the digital era.

Accurate news enhances understanding of critical issues, while false or misleading information requires correction to prevent unwitting harm (Robertson, 2020). Developing technologies to help online media users break free from filter bubbles and access balanced perspectives is

crucial (Rehm, 2018). Social media campaigns play a pivotal role in correcting global health misinformation by encouraging users to challenge false information and providing credible refutations (Bode and Vraga, 2017). While major platforms offer verification badges to businesses, celebrities, and government agencies, unverified accounts may still carry credibility issues. Therefore, diligence in verifying information sources remains paramount. For instance, screenshots of tweets or Facebook posts can be manipulated or falsely attributed, necessitating verification from original sources or profiles.

Google aids in news verification, with searches using unique keywords often yielding more reliable results than general queries (Robertson, 2020). Identifying gaps or inconsistencies in stories and comparing claims with verifiable sources are critical strategies to discern truth from falsehood (Robertson, 2020). Future research should focus on developing evaluation criteria for assessing the credibility of internet information sources, benefiting website developers and librarians (Smith, 1997).

Ultimately, assessing the validity of news involves analyzing its components, distinguishing between subjective and factual elements, and evaluating its potential impact. Ignoring real dangers, such as disease outbreaks, due to misinformation can have life-threatening consequences (Robertson, 2020). Therefore, a prudent, innovative approach to combating information pollution entails fostering critical thinking, leveraging technological advancements, and promoting educational initiatives to nurture a vigilant and informed society.

3. Assessments on The Problem of Pervasiveness of Data, Information, and Knowledge

The advancement of technology has resulted in the widespread integration of powerful computers and communication technologies into various scientific, industrial, and personal domains. Consequently, these domains generate substantial amounts of digital data, leading to the emergence of big data resources. This phenomenon presents both unprecedented opportunities and challenges in terms of analyzing, managing, interpreting, and responsibly utilizing such data (Emmert-Streib, 2021).

Initially introduced in the fields of astronomy and genetics, the concept of Big Data has evolved significantly with the integration of the Internet into our daily lives. It has become a resource that grows incessantly, often unnoticed. Every aspect of our lives, such as movements, images, changes, typing, actions, communications, relationships, signals, comparisons, and more, generates instantaneous data, information, and knowledge that can be studied in various scientific disciplines. Consequently, the accumulation of data occurs at an astonishing and overwhelming pace, enabling new possibilities for information acquisition and learning (Emmert-Streib, 2021).

Before delving into the definition of big data and its connection to pervasive knowledge, it is crucial to pose some thought-provoking questions:

- Can artificial intelligence address our perpetual need for continuous learning?
- If data permeates the environment, do air molecules contain an archive of past information?
- How is it possible for an air molecule to simultaneously transmit light, heat, wind, X-rays, Wi-Fi, Bluetooth, voices, and more without any interference?

Throughout history, philosophers have acknowledged a propensity for denying knowledge as they ascend towards higher levels of wisdom. This phenomenon, known as Socratic ignorance in the literature, entails the recognition of one's own lack of knowledge. Even the most knowledgeable and erudite philosophers admitted their own ignorance, as they grasped the vast scope of pervasive knowledge that encompasses everything from particles to planets and

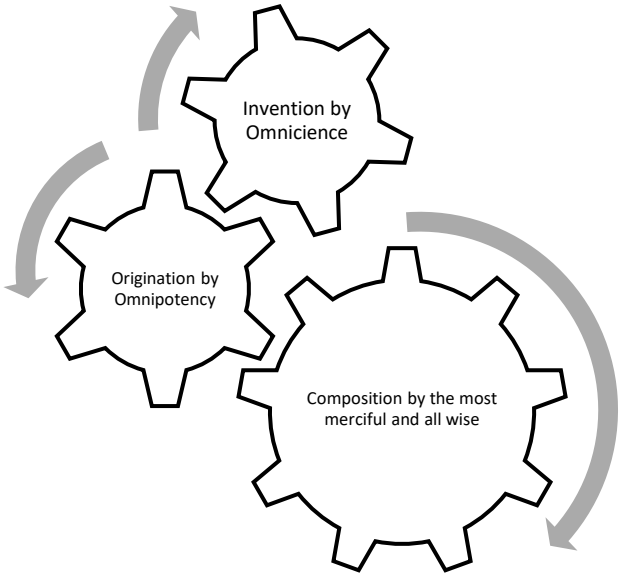
encompasses the management of both the physical and spiritual needs of human beings. Human beings come to realize their own inadequacy and incapability when faced with the omniscience of the Divine. Socrates emphasized that the path to wisdom begins with curiosity and inquiry. To attain any level of knowledge and understanding, one must first acknowledge their own ignorance, as it serves as the crucial foundation for continuous learning and intellectual growth (Nursi, 1960).

Some early philosophers, overwhelmed by the vastness of universal knowledge and omniscient wisdom, went beyond skepticism. They denied everything, including their own existence, exemplified by the Sophists. For them, it was easier to reject the existence of the universe and even their own reality than to follow a misguided path that claimed natural causes and phenomena possessed pervasive knowledge and power to create and sustain existence. Consequently, they rejected both themselves and the universe, descending into a state of absolute ignorance (Nursi, 1960).

The human mind appears incapable of comprehending the purpose behind the creation of the universe and the mechanisms governing it through solely positive materialistic sciences. Those who engage in philosophical pursuits, centering the mind as the sole independent tool of thought, become ensnared in a vortex, leading them astray in their quest to unravel the universe's mysteries. Some philosophers find no satisfaction in their hypotheses and opt to deny both themselves and the universe in an attempt to find solace. However, their path is obscured by darkness, impeding their followers from progressing. Some philosophers collide with the rock of natural evolution, while others are engulfed by the relentless quagmire of materialism, and a few disappear haphazardly in the winds of chaotic chance (Nursi, 1960).

Another group of philosophers recognized that misguidance portrays natural causes and phenomena as the Creator. However, the creation of even a fly or a seed entails numerous complexities that require pervasive knowledge and omnipotent power, which are incompatible with materialistic reasoning. Consequently, they felt compelled to deny the act of creation, asserting, "Nothing can exist out of nothing." Refuting the possibility of total annihilation, they proclaimed, "What exists cannot go to nothing." They imagined a scenario where combinations, decompositions, aggregations, and dispersals occur solely through the motion of atomic particles and the whims of chance (Nursi, 1960). In doing so, they disregarded the existence of pervasive knowledge, which is evidently demonstrated by every atomic composition and decomposition according to preordained Divine plans and programs, such as DNA and seeds.

Figure 2. Key factors effecting continious creation



***Source**: Developed by the researcher*

One can observe the pervasiveness of knowledge and wisdom through two distinct creation processes. The first is origination and invention, where God brings a being into existence from nothingness and creates all the necessary elements for it out of nothing. These provisions are then bestowed upon the being. The second process is composition, accomplished through art. God forms certain beings using atoms and elements from the universe, showcasing His wisdom by exhibiting the perfections of His holy names and manifesting His attributes. He assigns particles and matter to these beings in accordance with His command, employing them in their functioning. The All-wise and All-powerful Creator employs both origination and composition, effortlessly eradicating existing entities and creating nonexistent ones. This phenomenon is a constant and universal law. When faced with a power that can bring into existence the forms and attributes of three hundred thousand living creatures from nothingness, along with their particles, conditions, and state, it is baseless to claim that "He cannot give existence to what does not exist" (Nursi, 1960). The pervasiveness of knowledge and wisdom becomes evident to our minds and reason through the orderly creation of things, in a miraculous manner beyond our comprehension and replication. Nonetheless, we can strive to learn from this divine wisdom and find ways to comprehend it in our artificial endeavors (Nursi, 1960).

In the modern era, knowledge has become so widespread that it is inconceivable to grasp without consulting relevant experts, apart from divine knowledge and universal reason. Organizations are compelled to attain knowledge and wisdom from processed information through extensive data management, data mining, and AI processing. They achieve this by utilizing advanced tools and techniques that generate vast amounts of data from various reports and logs. Industry 4.0 applications have led to the ubiquity of sensors for movements, laser measurement, air control, radar, pollution monitoring, and imagery, resulting in continuous data and information generation across all sectors. Surveillance, SCADA systems, and SIEM tools have become crucial for collecting data on security, production, research, and operations. The affordability and capability of semiconductor technology and software programming tools have allowed these automated systems to replace expensive human labor. However, using and manipulating these systems still requires critical human labor, which cannot be entirely replaced by robots. Therefore, both the process of acquiring knowledge and the requirements to do so

demand an additional level of expertise and knowledge. Without proper consultancy and guidance, achieving desired goals and objectives becomes significantly more challenging.

With the advancement of technology and information systems, data and information have become ubiquitous. Accessing the desired information has become easier than ever before. Scientific discoveries have shown the potential for extracting data stored in air molecules and elements from past times. The widespread use of the internet has immensely facilitated the access and analysis of data, information, and knowledge. However, these developments raise further questions:

- How accurate is the information found on the internet?
- Are we encountering fake or misleading data and information?
- Can the rapid pace of big data analytics with AI lead to communication with extraterrestrial beings and allies?

The internet is saturated with false, incomplete, or biased information. The prevalence of such data casts doubts on accurate information and truth. This abundance of missing, incorrect, or biased information can diminish the quality of life and hinder effective communication. For instance, it can lead to the acceptance of inaccurate claims by presenting them as genuine. Video and photo editing programs allow the creation of realistic images and videos that can distort information or create content in line with someone's preferences. AI tools can even imitate the voice and movements of individuals. Consequently, people may accept the first data they encounter and incorporate it into their lives. This situation negatively affects individuals' quality of life and gives rise to conflicts and risks in economic, social, and political realms, further exacerbated by the digital divide and technological ignorance.

The ever-growing volume of big data, information, and computer technologies holds a significant position in human society. With the advent of pervasive open digital resources and open data societies, these phenomena have entered a new dimension. The information produced on the internet, with its transformative nature and deviation from traditional values, enables individuals to metamorphose into "digital humans" in cyberspace, parallel to their physical existence. This transformation has resulted in substantial changes in every aspect of life. Unprecedented advancements in information and communication technologies have disrupted the conventional constraints of time and space, consequently altering the social power structure and hierarchy. The constantly evolving information generated by IoT, Industry 4.0, government agencies, individuals, and increasingly digitized companies diminishes the significance of physical space and time, which are no longer perceived as limitations.

The pervasiveness of knowledge extends beyond scientific facts, statistics, and figures; it also encompasses privacy and personal information. With smartphones and other digital devices, even the futuristic scenes depicted in science fiction movies have become reality. However, these devices, which offer convenience, pose severe threats to personal privacy and contribute to a surveillance society. Any internet-connected device is susceptible to unauthorized access, allowing hackers or system owners to decipher individuals' preferences, choices, friends, groups, and personal profiles. Governments also engage in monitoring activities to uncover social and political networks, relationships, and connections for security and intelligence purposes. The magnitude of these dangers poses a significant challenge and can trigger paradigmatic crises. Smartphones, in particular, are vulnerable due to their internet connectivity. For instance, the map feature in smartphones records an individual's location precisely, as well as their close associations.

4. An Evaluation of The Latest Legislation on Disinformation in Türkiye

The introduction of the Disinformation Law in Turkey marks a significant step towards combating information pollution, disinformation, and misguidance on social media and the internet. The law aims to address the dissemination of false information that threatens public order, internal and external security, and general health. By holding individuals accountable for publicly spreading misleading information with the intent to create anxiety, fear, or panic, the law provides a framework to protect the public from harmful content.

The requirement for international social media platforms to designate representatives who are citizens of Turkey demonstrates a commitment to increasing accountability and fostering a safer online environment. These representatives, equipped with technical, administrative, legal, and financial authority, will play a vital role in monitoring and reporting platform content, tags, and algorithms to the Information Technologies and Communications Authority (BTK). This collaboration between platforms and regulatory authorities will help identify and address content that poses risks to individuals' safety and property.

Additionally, the law emphasizes the need for transparency by mandating that social media platforms share information about content creators with law enforcement agencies when necessary. This provision ensures that those who engage in illegal activities, endangering the lives and property of others, can be swiftly identified and held accountable. By cooperating with authorities, social media platforms can actively contribute to maintaining public safety and security.

The law also introduces measures to regulate internet news sites, previously not covered by existing press laws, by requiring them to display disclaimers for a specified period. This provision enhances transparency and accountability in the online media landscape. Furthermore, the law empowers the prosecution by implementing stricter guidelines for the submission of content upon request, preventing potential manipulations and ensuring responsible journalism.

Disinformation legislation is a controversial and complex topic, as it involves striking a balance between protecting the public from false information and safeguarding freedom of expression. In Turkey, a new legal regulation targeting media and social media platforms has been introduced, which includes provisions to combat disinformation.

The disinformation legislation in Turkey introduces criminal provisions for publicly disseminating misleading information. Offenders can face imprisonment ranging from one to three years for spreading false information related to internal and external security, public order, and general health. This provision aims to address the issue of disinformation and its potential negative impact on society.

While combating disinformation is a legitimate goal, the vague language used in the legislation raises concerns about potential misuse and violation of freedom of expression. The broad scope of the law allows for subjective interpretation, which may lead to suppression of dissenting voices and critical journalism. The legislation's potential to create confusion and blur the line between false information and legitimate criticism is a matter of concern for media freedom and freedom of expression in Turkey.

The disinformation legislation in Turkey imposes obligations on social media platforms, including the requirement to designate a representative who is a citizen of Turkey. These representatives are required to live in Turkey and provide regular reports to the Information Technologies and Communications Authority (BTK) regarding platform content, tags, and algorithms. Failure to comply with these obligations can result in fines and even restrictions on internet access.

Evaluation: The legislation's aim to increase accountability of social media platforms is understandable, given the challenges posed by the proliferation of misinformation. However, the requirement for representatives to live in Turkey and the potential for authorities to demand user identity information raise concerns about privacy and the potential for undue surveillance. The legislation's provisions, such as slowing down access to platforms and imposing advertising bans without judicial decisions, may limit freedom of expression and hinder the flow of information.

While combating disinformation is a valid objective, the disinformation legislation in Turkey raises significant concerns about its potential impact on media freedom, freedom of expression, and privacy. The broad and vague language of the law provides ample room for misuse and suppression of dissenting voices. The provisions targeting social media platforms may result in increased self-censorship, limited access to information, and potential privacy infringements. Moreover, the concentration of authority and decision-making power within the BTK raises questions about independence and impartiality.

To address the challenges posed by disinformation, it is crucial to adopt legislation that strikes a balance between addressing false information and protecting fundamental rights. Any legislation targeting disinformation should have clear definitions, safeguards for freedom of expression and privacy, and mechanisms to prevent abuse of power. Ensuring transparency, stakeholder participation, and adherence to international human rights standards are essential for an effective and balanced approach to tackling disinformation.

The reinforced authority of the Information Technologies and Communications Authority (BTK) to block access to content on the grounds of national security, as well as the interception of intelligence information or confidential documents, is a necessary step to protect sensitive information and safeguard the country's interests.

Therefore, the Disinformation Law in Turkey demonstrates the government's commitment to ensuring the integrity of information circulating on social media and the internet. By introducing measures that promote accountability, transparency, and responsible journalism, the law has the potential to significantly reduce information pollution, disinformation, and misguidance, thereby safeguarding public order, security, and the well-being of Turkish citizens.

Conclusion

In navigating the digital era, characterized by the pervasive influence of data and knowledge, we must address the substantial risks posed by misinformation and disinformation. While "big data analytics" and digital advancements, particularly in health, have yielded significant benefits, the exponential data growth on platforms like Facebook, Twitter, Instagram, and YouTube exposes a "deep" and "dark" side of digital information. This environment potentially facilitates future surveillance mechanisms where enforcement of appropriate sanctions might be insufficient. The Cambridge Analytica scandal in April 2018, leading to an apology from Facebook's senior manager Mark Zuckerberg, highlighted the misuse of social media data for political propaganda. In response, the European Union introduced the General Data Protection Regulation (GDPR), requiring companies to obtain consumer consent for data usage.

Moreover, internet usage exposes individuals to potential monitoring through device cameras and microphones. Unauthorized access to these devices allows covert surveillance, with hackers exploiting hidden applications to discreetly capture video and audio recordings. The high-definition cameras in smartphones amplify these risks, making privacy breaches and potential harm more likely.

Understanding information pollution is crucial, given the vast internet landscape hosting approximately 700 million websites. The superficial presentation of data contributes to the overwhelming density of information, lacking the editorial control found in traditional media. This makes extracting accurate information challenging, fostering global suspicions around information. The literature extensively discusses factors contributing to this state, emphasizing the need to prioritize the quality of correct information to prevent an uncontrollable overflow or bombardment of false news. The unpredictable psychological impact of data chaos highlights the urgency of addressing self-interest-driven callousness and finding solutions.

The chaotic media structure, where plans change frequently, makes internet journalism a prime area for information pollution. The high frequency and variability of news schedules often overshadow the fundamental principles of journalism, such as thorough research. This underscores the importance of critical thinking when consuming online news, as even minor technical manipulations can generate numerous misleading news pieces.

Digital transformation requires not only technological transfer but also a significant cultural shift. In the labor market, providing a workforce with the necessary qualifications for change and transformation is crucial. Individuals must have opportunities to update their knowledge and skills to adapt to the evolving digital landscape. For the public sector, the sustainability of a system relying on expertise-based jobs through service procurement necessitates qualified personnel. The study identified prevalent anxiety and social classification codes, underscoring the need to define and communicate the concept of Big Data accurately. An educated public, aware of social classification and equipped with effective coping mechanisms for anxiety, is essential. The manipulation of individuals through profit-driven programming necessitates an approach that respects individual rights, freedoms, and privacy. Measures should be taken to prevent labeling, marginalization, and classification facilitated by algorithms.

The hypothesis and research problems outlined in the study have been thoroughly addressed. The research problem, exploring the challenges and implications of digital transformation, particularly the impact of false and biased information, the accumulation of big data, and the resulting paradigm shifts, has been critically examined. The study confirms the following hypotheses:

- **H1:** The presence of false and biased information in virtual environments contributes to confusion, unfair practices, and a blurring of reality.
- **H2:** The pervasive presence of misguided or biased data and information poses greater challenges and risks than data and information shortages.

The study highlights the need for innovative technological expertise and substantial cultural and institutional process re-engineering to achieve sustainable digital transformation. A high-quality education system is vital for equipping individuals with an innovative mindset and necessary skills to effectively utilize and guide new technologies. Rapid industrialization has increased education levels and improved economic and social welfare, leading to a greater interest in healthy living and entertainment.

By critically analyzing the psychological impact of data chaos and emphasizing the importance of critical thinking, the study provides comprehensive strategies to mitigate the harmful effects of information pollution. It underscores the significance of a digitally skilled workforce and the importance of qualified personnel in sustaining systems that rely on expertise-based jobs. The study's findings and recommendations contribute significantly to understanding and addressing the pervasive challenges posed by misinformation and disinformation in the digital age.

Researchers studying this topic should consider the following suggestions:

1. Examine the implications of false and biased information in virtual environments: Researchers can investigate the influence of false and biased information in virtual environments on confusion, unfair practices, and the blurring of reality. Hypothesis H1 suggests that the presence of such information contributes to these negative outcomes.
2. Analyze the challenges posed by misguided or biased data and information: Researchers can explore the challenges posed by the pervasive presence of misguided or biased data and information, as proposed in hypothesis H2. Comparisons can be made between the impact of such data and information shortages to provide insights into the extent of these challenges.
3. Investigate surveillance mechanisms and inadequate sanctions: Researchers can delve into the potential future surveillance mechanisms facilitated by digital environments and assess the effectiveness of existing sanctions. This investigation can shed light on the need for stronger regulatory measures to protect privacy and mitigate the risks associated with data usage.

By addressing these research suggestions, scholars can contribute to a better understanding of the challenges and potential solutions related to the presence of false and biased information, information pollution, and the broader implications of digital transformation in today's society.

References

Abbany, Z. (2018) Opinion: Science is scared of religion, DW, https://www.dw.com/en/opinion-science-is-scared-of-religion/a-43189947

Abbott, A. (2001). Chaos of disciplines. University of Chicago Press.

Adams, J. (2014). Science and Religion in the Enlightenment: Implications for Religious Education. British Journal of Religious Education, 36(3), 301-314.

Akdeniz, E. M., & Şen, E. (2012). The digital divide and the diffusion of information and communication technologies. Procedia-Social and Behavioral Sciences, 51, 139-143.

Anderson, M. S. (2017). Interdisciplinarity: A critical history. University of Michigan Press.

Aristotle. (1952). The Nicomachean ethics. Oxford University Press.

Aydın, İ. (2012) Bilişim Sektörü ve Türkiye'nin Sektördeki Potansiyeli, International Journal of New Trends in Arts, Sports and Science Education, 1 (1), s. 180-200.

Bawden, D., Holtham, C., & Courtney, N. (1999). Perspectives on information overload. Aslib Proceedings, 51(3), 249-255.

Bode Leticia & Vraga Emily K. (2018) See Something, Say Something: Correction of Global Health Misinformation on social media, Health Communication, 33:9, 1131-1140, DOI: 10.1080/10410236.2017.1331312

Brown, J. S. (2018). Research that matters: Applied research for changing times. Harvard Business Press.

Brown, M. K. (2012). A Handbook for Catholic Preaching: Developing an Evangelizing Preaching Style. Liturgical Press.

Brown, R., & Smith, J. (2018). Postmodernism and the sociology of health and illness: A critical assessment. In The Routledge Handbook of Social Work Ethics and Values (pp. 207-220). Routledge.

Clark, A. (2013). Understanding science: Using scientific method to learn how to think. CreateSpace Independent Publishing Platform.

Davis, C. (2017). Cyberfeminism in Northern Lights: Feminist Media Studies and the Technological Turn. Feminist Media Studies, 17(1), 179-182.

Değirmenci, M. (2017). Conceptual framework of interdisciplinarity. In The Future of Learning and Teaching in Next Generation Learning Spaces (pp. 3-22). IGI Global.

Efe, A. (2020) *Wisdom in The Crises of Cyber-Capitalism*, Astana Publications, Ankara, Türkiye

Emmert-Streib, F. (2021) From the Digital Data Revolution toward a Digital Society: Pervasiveness of Artificial Intelligence. Mach. Learn. Knowl. Extr., 3, 284-298. https://doi.org/10.3390/make3010014

Evans, D. (2016). Chaos, Complexity, and Sociology: Myths, Models, and Theories. SAGE Publications.

Farhoomand, A. F., & Drury, D. H. (2002). Organizing corporate knowledge through an intranet: A case study of Hughes Electronics. Journal of Management Information Systems, 18(1), 237-266.

Flanagin Andrew J., Metzger Miriam J. (2000) Perceptions of Internet Information Credibility, Journalism & Mass Communication Quarterly Research Article https://doi.org/10.1177/107769900007700304

Garcia, G. (2014). Objectivity in Science. In The Stanford Encyclopedia of Philosophy (Fall 2014 Edition). Stanford University.

Geertz, C. (2005). After the fact: Two countries, four decades, one anthropologist. Harvard University Press.

Hanisch, W. H., & Vollman, T. E. (1983). Interdisciplinary research and team building. Pergamon Press.

Hawkins, J. (2013). Science and the Enlightenment: Science and religion in Western history. Society, 50(3), 277-282.

James, P. (2019). Contemporary Social and Sociological Theory: Visualizing Social Worlds. SAGE Publications.

Johnson, M. (2008). A Dynamic Systems Approach to Development: Applications. MIT Press.

Johnson, M. D., & Thompson, G. (2020). Collaborative research in global health: A practical guide. Springer.

Johnson, T. (2017). Chaos Theory and the Contradictions of Postmodernity. Journal for the Theory of Social Behaviour, 47(3), 281-299.

Jones, R. (2015). The Making of Modern Management: British Management in Historical Perspective. Oxford University Press.

Jones, R. (2022). Cyber threats and security in the digital era. Routledge.

Kelley, D. (1997). Academic disciplines: Holland's theory and the study of college students and faculty. Vanderbilt University Press.

Klein, J. T., & Newell, W. H. (1998). "Advancing Interdisciplinary Studies." Interdisciplinarity: Essays from the Literature. William H. Newell (der.) New York: College Entrance Examination Board.

Kokke, Marcelo and Oliveira, Márcio, Digital Pollution: Going Beyond the Limits of Virtual (December 6, 2018). Revista Jurídica, vol. 04, n°. 53, Curitiba, 2018. pp. 55-84, Available at SSRN: https://ssrn.com/abstract=3329533

Lee, R. (2017). Morality and Knowledge in Kant and Hume. Routledge.

Lopez, L. (2015). Emotions: An Intellectual History. Routledge.

Maltby, D. (2011). Big Data Analytics. ASIST, (s. 1-6). New Orleans.

Memmi, D. (2012). Information and knowledge management. In International Conference on Exploring Services Science (pp. 137-149). Springer.

Meyer, D. E. (1998). From data to information through resourceful exploration. Journal of Experimental Psychology: General, 127(3), 257-278.

Meyer, J. A., Information Overload in Marketing Management. Marketing Intelligence and Planning, 1998, pp 200-209.

Miller, M. (2018). The Birth of the Clinic and the Surgical Theatre. In The Cambridge Foucault Lexicon (pp. 107-113). Cambridge University Press.

Nonaka, I. (1996). Knowledge Has to Do with Truth, Goodness, and Beauty: an interview with Professor Nonaka, http://www.dialogonleadership.org/Nonaka-1996.html

Nonaka, I., and Takeuchi, H. (1995). The Knowledge-Creating Company. Oxford University Press

Nursi, BS (1960) *The Words*, Sozler Publications, Istanbul

Othman, S., Hassan, F., Sabri, S., & Nayan, L. (2020). Fake News From The Islamic Perspective. *MIMBAR: Jurnal Sosial dan Pembangunan, 36*(1), 159-168. doi:https://doi.org/10.29313/mimbar.v36i1.5467

Rehm G. (2018) An Infrastructure for Empowering Internet Users to Handle Fake News and Other Online Media Phenomena. In: Rehm G., Declerck T. (eds) Language Technologies for the Challenges of the Digital Age. GSCL 2017. Lecture Notes in Computer Science, vol 10713. Springer, Cham. https://doi.org/10.1007/978-3-319-73706-5_19

Robertson Adi (2020) How to fight lies, tricks, and chaos online, theverge, https://www.theverge.com/platform/amp/21276897/fake-news-facebook-twitter-misinfor

Smith, Alastair G. (1997) "Testing the Surf: Criteria for Evaluating Internet Information Resources." The Public-Access Computer Systems Review 8, no. 3 5-23.

Smith, J. (2010). Kuhn, Thomas S. (1922-1996). In The Oxford Encyclopedia of American Cultural and Intellectual History (pp. 194-198). Oxford University Press.

Smith, J. K. (2019). Knowledge, pedagogy, and postmulticulturalism: Shifting the locus of learning in urban teacher education. Harvard Educational Review, 59(4), 380-415.

Smithson, M. (2011). Ignorance and Uncertainty: Emerging Paradigms. Springer.

Thompson, J. (2012). The Book of Nothing: Vacuums, Voids, and the Latest Ideas about the Origins of the Universe. Vintage.

Toso, S., Atlı, Ş. M. & Mardikyan, S. (2016). Türkiye'nin Bölgeleri Arasinda Sayisal Uçurum. Bilgi Ekonomisi ve Yönetimi Dergisi, 10 (1), 0-0 . Retrieved from https://dergipark.org.tr/tr/pub/beyder/issue/30327/327336

Wallerstein, I. (2004). World-systems analysis: An introduction. Duke University Press

Wilson, A. (2016). Science, Religion, and the Search for Extraterrestrial Intelligence. Oxford University Press.

Wilson, B., & Brown, M. (2020). Contemporary Christian Thought: A Philosophical Introduction. Routledge.

Yankın, F. B. (2019) Dijital *Dönüşüm* Sürecinde Çalışma Yaşamı, Trakya Üniversitesi İktisadi ve İdari Bilimler Fakültesi E-Dergisi , 7 (2), s. 1-38.