# Value capture and creation in the platform economy: A review of concepts

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# Abstract

The platform economy has emerged as a transformative force in contemporary society, reshaping various aspects of daily life to be intermediated digitally. As scholarly interest in the platform economy grows, there is a need for comprehensive research that synthesizes existing theories that speak to its foundations of operation. This paper presents a semi-systematic literature review that explores how scholars have theorized the structures of value creation and capture in the platform economy.

The research aim is twofold. Firstly, the study seeks to provide a valuable resource for researchers seeking to orient themselves to the platform economy as a global phenomenon from a conceptually rich perspective. By examining how scholars have conceptualized mechanisms for value capture, the thesis presents significant influences in the literature and highlights key themes and concepts. In the process of collating contributions from within the literature, the second research aim emerges; to apply systematic literature review methods to qualitative and non-empirical theoretical works. This thesis therefore contributes a conceptual road map to the value engine of the platform economy, while simultaneously exploring qualitative literature review methods for theory development.

This study is anchored in a critical realist philosophy, which underpins the research question, "how have scholars theorized the structures of value capture and creation in the platform economy?" Critical realism provides practicable insights on evaluating theory, complemented by the regulation approach which is a research tradition for historically-specific analysis of capitalism.

Research methods include a systematic search of the literature to ensure a comprehensive coverage of relevant scholarly contributions, screening for inclusion based on relevance, validity, and use of theory, and qualitative research techniques, such as coding, to analyze the literature. Following these steps, the contributions of twenty-four articles are synthesized to uncover the themes at the core of the platform economy's operation, specific concepts, and common influences.

This research finds that the core components of the platform economy are data, labor, and its structure. These three elements interact to provide platforms powers of intermediation, control, enrollment, and expansion. As well, the findings point to the ways that platforms work socially, culturally, and politically to stabilize their position of power.

Overall, this literature review contributes to the growing body of knowledge on the platform economy by synthesizing existing theories of value creation and capture. By providing an overview of concepts and common influences, this research offers a foundation for future scholars seeking to understand and explore the platform economy from diverse theoretical perspectives. Moreover, the systematic search, critical evaluation, and qualitative coding techniques employed in this study enhance the rigor and comprehensiveness of the analysis, and provide insights on the use of literature review methods for theory building.

Keywords: platform economy, value creation, value capture, literature review, conceptual theory, systematic search, critical realism, qualitative coding, regulation approach.

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# 1. Introduction

The platform economy is a contemporary development of increasingly digitally mediated services, characterized by its interactivity and foundations in data, which has rearranged nearly all aspects of daily life. Put another way, every Facebook post, Zoom meet, or Amazon purchase is an interaction with the platform economy. As the scholarship around the platform economy is growing quickly, there is a need for research that reviews and synthesizes existing research for scholars new to the topic. While there have been multiple reviews that scope the literature broadly on platform economies (Xue et al., 2020; Poniatowsky et al., 2021), clarify definitions (Liang et al., 2021; Kruljac, 2021; Sanchez‑Cartas & León, 2021), or create research agendas for specific branches of platform economy research (Scully-Russ & Torraco, 2020; Reuver et al., 2018), there are very few standalone literature reviews that focus on synthesizing theoretical approaches. In particular, this research aims to look at the core of the platform economy across platform types, which is how platforms generate value. This is why I have chosen to undertake a standalone literature review where I ask the question: *"how have scholars theorized the structures of value creation and capture in the platform economy?"*

This research aims to provide a resource for researchers who want to understand the platform economy from a theory rich perspective, offering an orientation into significant influences in the literature, as well as themes and concepts that speak to the platform business model. In doing so, this thesis approaches theory building in a unique way, by combining the systematic approaches popular in quantitative and empirical research with inherent subjectivities and nuance of qualitative, non-empirical, theoretical works. While investigating the platform economy through a semi-systematic literature review, this research also asks how systematic methods can be applied to a review of concepts.

While using a patchwork of literature review and qualitative research methods, this review is guided by a critical realist ontology and epistemology, which provides tools for social inquiry, as well as the regulation approach, which offers a framework for historically-specific analysis of capitalism.

Through coding the literature of this review, I find that the foundations for value in the platform economy are data, labor, and its structure—all of which can be understood through various

conceptual framings. These three components interact to give platforms their powers: intermediation, control, enrollment, and expansion. As well, the concepts present in this review speak to the ways that platforms work politically, socially, and culturally to stabilize their market positions and gain acceptance for their accumulation practices.

This thesis is made up of the following sections. Section 2 provides background on the platform economy, explaining its definition and addressing its various synonyms, as well as introducing its features and the dynamics at play.

In Section 3, the research aim is discussed in detail, and presents the research question, sub questions, and objectives that guide the study. The overarching research question is defined in detail, as this is the foundation for this thesis's methodology, philosophy, and thematic content.

Section 4 introduces the research philosophy and framework that underpin the analysis. Critical realism and the regulation approach are explained as the guiding principles for understanding the platform economy, chosen for their emphasis on theory, understanding social phenomenon through structures and mechanism, and relevance to historically-specific analysis of capitalism.

Section 5 introduces the literature review and literature review methodology. As one of the aims of this work is to apply rigor and systematism to a review of theoretical work, this section provides a context for the methods presented in section 6, by first defining the benchmarks for systematic review. Then, Section 6 explains the specifics of how this review was conducted, describing each step from the database search to analyzing the data.

Section 7 presents the findings from the review articles, answering the research questions, and synthesizing theoretical concepts and influences. This section offers resource tables, discussion of the foundations of platform value, and presents extra-economic ways that the platform economy sustains itself.

In Section 8, Discussion, I reflect on this research to discuss my methodological research question of using systematic methods with theoretical content, and consider whether the process I employed in this thesis could be valuable to other theory-building research. As well, I discuss future research regarding the platform economy and the regulation approach. Finally, Section 9 provides a conclusion.

## 2. Background

Innovations in internet communication technology have drastically changed the state of the world in terms of work, leisure, and social life. The combination of widely accessible internet connections and advances in cloud computing is also what has paved the way for the "rise of the platform economy" (Kenney & Zysman, 2016). The platform economy—also known as the sharing economy, crowdsourcing, or online marketplaces—describes the phenomenon of digital spaces, often in the form of apps and websites, where actors interact. Online platforms are a relatively new structure, but extraordinary growth in both the number and scale of platforms have quickly made apps and websites a defining feature of life in the 21st century. In 2016 it was calculated that platform firms make up a market value of 4.3 trillion USD, which puts the number even higher today (Evans & Gawer, 2016). The emergence of platforms has a measurably disruptive effect on the economy—a 2021 study of the US service industry found that 70% of firm industries, which is over 5.2 million business establishments, are potentially affected by the operations of at least one platform (Kenney, Bearson, & Dafna). The evidence is clear, the platform model is powerful, and its pervasiveness grows.

Scholarship has been trying to keep up with the proliferation of platforms, and research on the topic has grown considerably in the last ten years. For example, one review found 46 articles published on the topic of online platforms in 2010, compared to 1014 in 2020 (Mazurek, 2021). This literature spans multiple disciplines, including technology studies, business and management, political science, geography, and sustainability studies. There are many different questions that can be studied within the realm of the platform economy, from how to design code, regulate new kinds of marketplaces, channel innovation, or to make sense of the new kinds of social interactions taking place.

In the next section I give attention to the platform economy as a concept, one that I argue is fuzzy, the different kind of language that is being used to describe it, and the kind of platforms within 'the platform economy'. After that, I focus on the literature that speaks about the platform in general, specifically its power to intermediate interactions.

## 2.1 The Platform Economy and its Features

The platform economy can be considered a fuzzy concept—referring to the explosion of terminology, Botsman (2013) says, "The space is getting muddy and the definitions are being bent out of shape to suit different purposes. So, do I think these terms have different meanings? Yes. Are there common core ideas that explain the overlap? Absolutely" (within Mazurek, 2021). The reason that there are so many different terms that describe the platform economy is a reflection of its complex nature—specific platform types differ in how they are structured and operated, resulting in platform unique conditions and interactions.. There is a large collection of words and phrases that have been used to describe the platform economy or the different pieces of it. These phrases are often used in different ways by different authors, and the popularity of terms has changed over time.

Figure 1 demonstrates the way that language around platform economy and its functions has evolved over time, created by Silva and Moreira in their literature review and bibliometric analysis of platform economy and entrepreneurship (2022).
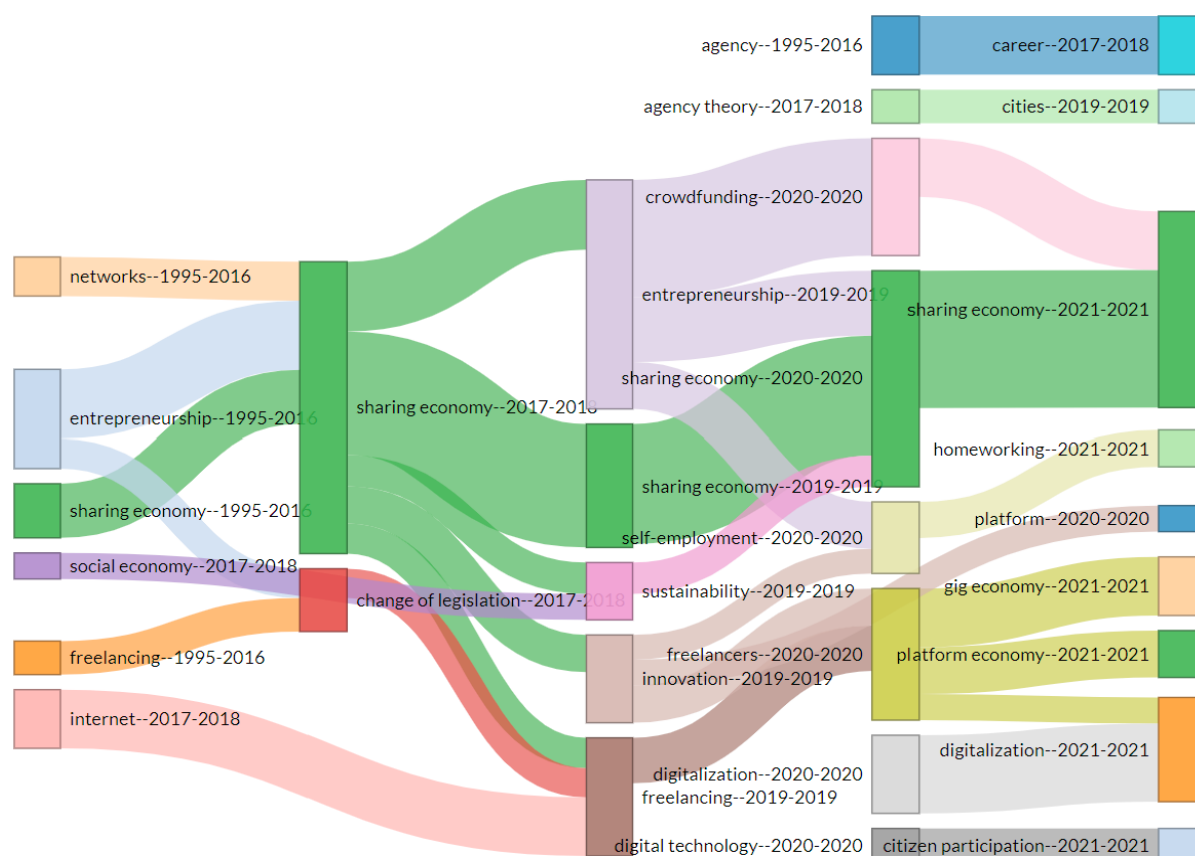
*Figure 1 Thematic Evolution of Platform Economy and Entrepreneurship Literature (Silva & Moreira, 2022)*

One of the most popular terms includes "the sharing economy", which comes from the function that platform has for users to redistribute, or share, resources. The sharing economy, as a phrase, highlights the fuzziness present in the language around the platform economy. For one, there is much debate about whether the interactions that happen on sharing platforms can actually be understood as "sharing" (Belk, 2014), but beyond that, there are also many online platforms that are not oriented towards distributing resources for users. That raises the question then, of whether "the sharing economy" has become an umbrella phrase that simply refers to all online platforms, or if "sharing economy" only refers to a subset of platforms? This question highlights how terms within the platform economy are contested and used in both broad and narrow senses to create a collage of overlapping terms that seek to describe the phenomenon of technologically mediated online interactions.

I use the term "platform economy" because it is broad enough to be sure to refer to all platform types and it puts emphasis on *digital platforms*, which is both the oldest term to refer to this kind of interface and most neutral in terms of being used universally across disciplines (Mazurek,

2021). The combination of "digital platform" and "economy" to create "the platform economy" was popularized with Kenney and Zysman, whose research is influential in being at the forefront of recognizing the rise of digital platforms as a turning point in the organization of society (2016).

There are many ways to define both the platform economy and digital platforms. For my purposes, I borrow my definition of the platform economy from Kenney & Zysman to refer to "a growing number of digitally enabled activities in business, politics, and social interaction" (2016). As for defining platforms themselves, there are varying definitions that attempt to put a boundary on what is or is not a platform, both in terms of technical qualities and how it interfaces with users (Liang et al., 2022). I prefer a definition from Andersson-Schwartz who defines platforms both in the technical applications and their capacity innovation and socio-economic impact (2017). He writes:

> Narrowly defined, a platform is a digital infrastructure (software-based but sometimes also hardware-based) intended for users to apply either computer code in the conventional sense (i.e., to run applications or fetch data from it), or to apply a set of human uses (delimited, formalized, and patterned by the design of the platform in question). Digital platforms are surfaces for technical innovation, on top of which new actors can develop additional services or products; in many ways they are utilities that generate new societal functions and business opportunities (Andersson Schwartz, 2017).

While "digital platform" has been found to be the most universal term in the lexicon surrounding the platform economy, other terms tend to be more closely associated with certain disciplines or research orientations (Mazurek, 2021). In Mazurek's research he conducted a scoping review where, through bibliometric analysis, he identified the most popular phrases over time and the contexts they were used (2021). The main phrases he found were digital platforms, crowdsourcing, two-sided/multi-sided markets, sharing economy, collaborative consumption, and gig economy. He found that, for example, microeconomic perspectives favored "two-sided/multi-sided markets", whereas research focused on social responsibility or sustainability on platforms spoke most often of "collaborative consumption", and that scholarship critical of platforms or speaking about the need for regulation used the term "gig economy" (Mazurek, 2021).

As well as the choice of term being influenced by academic discipline, it is important to note that there are many different types of platforms, and the language for platforms is diverse in order to accommodate these different platform types. To provide an overview of the different kinds of platforms that exist within the platform economy, I present the three kinds of platforms outlined by Nick Srnicek in his book 'Platform Capitalism'.

These three kinds of platforms he describes are advertising platforms, cloud platforms, and industrial platforms. Advertising platforms gain most of their revenue through selling advertisements on their platforms, for example, Google and Facebook. Cloud platforms refer to the platforms that offer online space and software tools, such as Amazon Web Services (AWS). Lastly, industrial platforms focus on coordinating interactions between two different groups of users. They act as intermediaries, connecting buyers and sellers, or users and producers. This includes a large number of platforms, including Netflix, Uber, and ecommerce sites (Srnicek, 2016, pp. 36-38).


## 2.2  The Power of Platforms

Within all the literature surrounding the platform economy, one topic that cannot escape notice is the way that platforms operate in a novel form as intermediaries with large concentration of power; leveraging the value gained by users through network effects, innovation that comes from entrepreneurship created on their platforms, and winner-take-all tendencies of platform growth (Langley & Leyshon, 2017; Andersson Schwartz, 2017; Cutolo & Kenney, 2021). This power that platforms hold is referred to in the term "platformatization", where platforms are not just a feature of the economy, but a disruptor, where platforms seek a position in every sector and opportunity of value. Nasbisan et al. describes platformatization as "a shift from individual products/services to platforms as intermediaries for transactions and for organizing value-creation processes" (2018).

The power of platforms can be understood from a number of complementary perspectives. For example, platforms can be understood as a 'logic' - enacting control on micro, meso, and macro levels, where at the micro level the code of a platform can determine what functions are and are not possible, to larger levels of control where platforms grow into ecosystems that can monopolize whole sectors of the economy (Andersson Schwartz, 2017). The control that

platforms have as intermediaries also create strong power asymmetries due to lock-in effects; platforms offer a service of efficient matching which attracts contributors, but these contributors find that value they gain is only available through platforms continued platform interaction (Cutolo & Kenney, 2021). Others trace the power of the platforms to the logic of how platforms operate as institutions. Frenken et al. explain that "From an institutional logics perspective, then, a platform unites functions previously distributed among the institutional logics of the corporation, the market, the profession and the state in a single organizational form" (2018).

Though the power of platforms can be analyzed through specific platform types, like the relationships between renters and sharing platforms or contract workers and gig platforms, the writing on platformatization above shows that at the foundation of all platform types there is an engine of value capture and growth with common features. Kenney and Zysman write that "if the industrial revolution was organized around the factory, today's changes are organized around these digital platforms" (2016). For that reason I believe it is incredibly important to continue the line of scholarship that takes a closer look at the structure of this new "factory", particularly how its foundational structure operates as an engine for profit-maximization.

## 3. Research Aim

### 3.1 Research questions and objectives

My overarching research question is conceptual; rather than seeking to give a definitive answer about a phenomenon, I am asking about the theories that surround a phenomenon. Inspired by the literature on platformatization that argue that platforms present a new era of accumulation, I ask:

*"How have scholars theorized the structures of value creation and capture in the platform economy?"*

The goal of this research is to provide a resource for future researchers who are interested in understanding the platform economy as a phenomenon and feature of contemporary social and economic life; and by asking about value capture and creation, I hope to hit upon core features and implications of how the platform economy operates. Importantly, I do not ask "what are the

structures…", but instead, "*how have scholars theorized*". This is because while there have been literature reviews that consolidate information about the platform economy, there is a need for synthesizing the growing pool of theory. By asking how scholars have theorized, I will be able to provide a resource for researchers that includes various frameworks, positionalities, and understanding of value capture in the platform economy which can direct theoretically informed research. Therefore, I ask the following sub-questions:

1. *What specific concepts emerge within the literature?*
2. *What are common influences across the literature?*

These questions are in line with my goal of providing a resource to other researchers by providing an overview of concepts that have been invented or applied in relation to the platform economy. As well, by asking about common influences, this thesis can flag important works or ideas that a researcher new to this topic would want to familiarize themselves with. By synthesizing theory, this project can help future researchers choose a theoretical perspective that fits their scholarship, or otherwise wish to understand the foundations of value creation and capture the platform economy from several points of view. Theoretical frameworks and ideas underpin scholarly work that aims to make sense of our world, and in the case of the platform economy where literature is rapidly growing, it is important to understand what different approaches are used to make sense of this economic and social transformation.

In the process of undertaking this research, alongside the original conceptual aim, a methodological question has emerged as well. By conducting a literature review of largely non-empirical research with the goal of being as systematic as possible in the collection and synthesis of concepts, I am also asking the following question:

3. *How can the literature review be applied as a method for a systematic review of conceptual theory?*

Lastly, while synthesizing the literature from this review, one more sub-question emerged. While the articles were selected because of how they address ways that the platform economy creates value, there were common themes in the literature that addressed an issue adjacent to value capture—how the platform firms organize themselves to gain acceptance for their practices

socially, culturally, and politically. As this is related to, but not directly addresses, my research question, I ask the final sub-question:

4. ***How does the platform economy stabilize itself?***

This wording of this question is inspired by the regulation approach, which is discussed in Section 4.


## 3.2 Defining the research question

In this subsection I will spend time breaking down my main research question, identifying the role each part of my research question plays, as well as defining terms carefully, as this is the foundation for my literature search and review. Once again, my research question is: *How have scholars theorized the structures of value creation and capture in the platform economy?*

- "scholars"

This term helps to define the scope of my question, limiting my research to academic publications, in line with the aim of better understanding the field of scholarly work.

- "theorizes"

This term indicates the subject of my search—that I aim to collect theories. Defining theory is no easy task, as it has come to mean different things to different research traditions, and drawing hard lines for what counts as theory has been controversial (Weick, 1995; Sutton & Staw, 1995).

For example, in a positivist tradition, theory proposes relationships between observable phenomena and is empirically tested. In contrast, the constructivist or postmodern point of view says that theories cannot be tested because both the theory and the evidence used to test it are constructed or imagined interpretations of reality, therefore "theories cannot be true or false; yet they can be more or less useful" (Danermark, 2002, p. 116)

The position that I take towards theory is one found in critical realism, which recognizes that the objects of study within social science "never appear as facts or as something observable" (p. 117), and that to approach understanding of social phenomenon requires the endeavor of putting language to our experiences of reality—the creation of concepts (Danermark, 2002)

Therefore, in this research I am interested in theories that seek to frame phenomenon through new concepts or new uses of established concepts. As well, I take the perspective that theory does not simply describe reality, but attempts to explain reality. In Sutton & Staw's 1995 article they admit to being unable to define clear criteria for what theory is, and instead write on what they can agree theory is not. However, in their conclusion they state that what is more or less certain is that "theory is the answer to queries of why. Theory is about the connections among phenomena, a story about why acts, events, structure, and thoughts occur." So, by asking 'how scholars have theorized', I am asking how have scholars attempted to explain *why* the processes of value capture and creation occur in the platform economy the way they do.

- "structures"

This research question asks about the 'structures' of value capture, though using the term 'processes' or 'mechanisms' could also be appropriate, and in my database search I use all of these terms. Choosing the term 'structures', as well as the candidacy for 'process' or 'mechanism', once again comes from my critical realist approach.

The critical realist approach is focused on knowing the world through *entities, powers, and systems.* An entity is an object or actor, which has a power—a mode of influencing the world, and exercising this power requires a mechanism. That mechanism's ability to have the power be *actualized,* however, is determined by its relationship to other entities and mechanisms at play within a system. Here, system refers to the network of all interactions. A closed system, for example, would be a lab where all variables are isolated and accounted for, whereas society is an open system because no element exists in isolation. Within society, there is also the 'laminated system', which refers to a composite "whose internal elements are necessarily 'bonded' in a multiplicity of structures" (Bhaskar, 1993, within Vincent & O'Mahoney, 2018). In other words, a laminated system refers to a discrete phenomenon consisting of 'systems, mechanisms, and entities which are important to consider together" (Vincent & O'Mahoney, 2018). This means that even though a laminated system still exists within the open system of society where all kinds of interactions are possible, there is a strong relationship between a group of entities that composes a feature of society. This includes organized practices or specific regimes—Vincent and O'Mahoney give these examples: Russian law, financialized capitalism, and British worker strikes (2018). I give the example of the platform economy.

Restating the earlier quote from Bhaskar, the elements of a laminated system are connected in 'a multiplicity of structures'. This is why I ask a question of "structures of value..."—structures inherently include the entities and mechanisms it is composed of, but unlike other wordings, here the emphasis is on the relationships between elements.

- "value creation and capture"

The phrase value capture and creation is used here for the dual purpose of being both broad and specific—broad in that it can easily be replaced by the phrase "business model" which can refer to all sorts of practices, and specific in that mirrors language used in platform studies to describe platform specific practices of accumulation.

In his literature review of business models patterns in the sharing economy, Curtis defined business model saying that it is "a description of how a company creates, delivers, and captures value for its customers", which places value capture and creation at the center of business operations (2021).

In the influential article by Langley and Leyshon (2017) they provide a detailed description on the ways that platforms 'intermediate' and 'circulate' digital value and various levels, where value has many forms—e.g. assets users 'share' on platforms, revenue through commission, financial and speculative value, and 'co-created' value of a platforms utility and popularity. Due to the way that platforms enroll various forms of value in their position as both businesses and intermediaries, it is necessary to use a term that is flexible enough to capture the spectrum of platform operations. Value, therefore, provides this umbrella term can refer to financial, monetary, physical, social, and cultural forms of capital.

- "platform economy"

The platform economy, as defined in Section 2, refers to the collective of digital software that is based on user interaction. However, more than a collection of apps and websites, the platform economy as a phenomenon refers to a new era of capitalist accumulation rooted in data and interactivity. In this light, 'platform economy' in this research question stands for more than just an economic apparatus, but a force that acts socially, culturally, politically, in addition to economically. Regarding the study of historically distinct eras of capitalism, Aglietta writes:

The study of capitalist regulation, therefore, cannot be the study of abstract economic laws. It is the study of the transformation of social relations as it creates new forms that are both economic and non-economic, that are organized in structures and themselves reproduce a determinate structure, the mode of production. (1979, within Jessop YEAR, p. 99)

Following the logic above, this research question positions the platform economy as the object of study in a way that is inclusive of the non-economic factors that characterize the platform economy.

### 3.3 Summary

There are many disciplines that intersect in the investigation of the platform economy, and likewise the platform economy has many branches and overlapping facets. Instead of attempting to tackle the platform economy in a way that describes all of these branches, this review instead looks towards the root operating logic of the platform economy; that root being that platform economy is a business model in a novel form brought forth by technology. As a business model, I have identified the platform economy's core mechanism to be the way it operates within contemporary capitalism as a tool for economic value, and thus I ask how scholars theorized the platform model for value creation and capture.

It is important to note that this research does not have the goal of generating a new framework for understanding of value in the platform economy, but to simply present and synthesize what has been written before. Though this work does not present a new framework or new concepts, the act of synthesizing is itself valuable research—to understand the works that came before is a prerequisite to a novel contribution.

As I aim to understand the platform economy through existing contributions, a literature review is most appropriate. As I am seeking to collect theoretical contributions, I conduct a qualitative review where academic articles make up my data source, from which I will extract ideas and theories through analysis of the language and arguments.

## 4. Research Philosophy & Framework

In this section I present an overview of my research philosophy and positionality—the epistemologies and traditions that guide and influence this review. These influences can be seen in both the content of my research as well as how I conduct research. As well, there is a strong relationship between conduct and content—one's position on what is knowable and how knowledge can be created has strong bearings on what kinds of questions are interesting and what form answers might take.

My overarching epistemology is critical realist, which is present at each stage of this review. My topic of study, the platform economy, and in particular questioning structures of value capture, is inspired by Marxist geography traditions and the regulation approach. Lastly, specific practices I follow during research, such as reading and writing simultaneously, come from a grounded theory approach. In the following section I present background on critical realism, Marxist research and the regulation approach, and how they guide my research. Lastly, I will discuss specific methodological practices I use and the theories that underpin them.

## 4.1. Critical Realism & The Regulation Approach

Critical realism is a philosophy and approach to research that finds middle ground between positivism and constructivism, a spectrum where on one side, the world is real and knowable, and on the other, reality is socially constructed and not objectively knowable. Critical realism attempts to overcome this duality by taking the position that there is an objective reality but that knowledge—and therefore learning about reality—is a subjective process (Vincent & O'Mahoney, 2018). This combination of being critical—taking a self-aware stance of the inherent flaws in being able to know the world—and being realist—starting from a foundational belief that there is a reality that exists as an object of study—means that critical realism has well developed goals and principles of research. Primarily, critical realism is interested in social inquiry, and believes that the fundamental aim of research is to reveal the causal mechanisms that generate social phenomena. As well, critical realism believes that "the role of theory is decisive for research", and places importance on the development of concepts and theory generation (Danermark et al., 2001, p. 2). Whereas positivist traditions place predictions as a key tenet of theory, critical realism takes the position that prediction is not possible, but it is still relevant to discuss potential consequences. Because of the middle ground that critical realism finds, it is a popular philosophy for mixed methods research.

I adopt a critical realist research philosophy because of its strengths of balancing what can be known and what is real, its focus on understanding social phenomenon, emphasis on theory as foundational to research, and ability to complement other research philosophies and methodologies. A significant contribution of critical realism to this review is the insights it has for defining different kinds of theory, which I use in order to determine inclusion of articles based on what kind of theory present, described in section 6.3. As well, critical realism has strong concepts for understanding social phenomena, such as 'mechanism' and 'entity', which can be used in this context to understand the different components, or entities, of the platform economy, and what mechanisms it has for generating value.

Critical realisms central role in this review is providing a framework for understanding and evaluating theory, but beyond prescribing how social phenomenon should be researched, it has little bearing on dictating *what* social phenomenon should be researched. This is where Marxism has its influence on my research. Marxism is a rich tradition of research and philosophy, a summary of which is beyond the scope of this paper. However, it is Marx's interest in understanding the capitalist mode of production, and all the scholars who have followed him, that has undoubtedly influenced me to study the questions of the platform economy and how it operates in contemporary capitalism. The regulation school, which developed in conversation with Marxism, in particular influences this work because of the way that it uses critical realist ontologies and epistemologies to understand the political economy of historically-specific chapters of capitalist accumulation.

The regulation approach is a distinct marriage of critical realism and Marxism because of the stance it takes towards theory, reality, and knowledge; an "implicitly critical realist ontology and epistemology" (Jessop, 2001, p. 90). In part, the connection between Marxism and critical realism comes from Marx himself, who said "all science would be superfluous if the outward appearances and essences of things directly coincided" (1971, within Jessop, 2001, p. 91), which echoes the critical realist idea that what is real and what is experienced operate on different levels. However, not all Marxist approaches take a critical realist stance, making this a distinct feature of the regulation approach. While the regulation approach does not declare itself critical realist, it uses critical realist assumption in how it works to understand structures and mechanisms while adopting capitalism as its object of inquiry.

Jessop, in his chapter on the regulation approach and critical realism, traces its origins to German philosopher Althusser and his writing on Marx and "science as a theoretical practice", who also worked to distinguish between "phenomenal forms and surface movement" within capitalism (Jessop, 2001, p. 91). Parisian regulationists Aglietta and Lipietz both build on and critique Althusser's work, developing the regulation approach into a distinct school of research, one that is explicitly Marxist and implicitly critical realist. Jessop states that "Aglietta and Lipietz were able to develop a better retroductive analysis of capitalism than provided by Althusser and his collaborators. Thus, they sought to identify the 'naturally necessary' properties and laws of motion of capital as a social relation" (Jessop, 2001, pp. 91-92). Both the method of working retroductively and the aim of undercovering properties and movements within social phenomena are what makes the regulation approach critical realist.

However, it is important to note that the regulation approach is not relevant to this review just because it is ontology and epistemology, but as well its object of study. The regulation approach is one that focuses on understanding both economic and non-economic forces that work to stabilize a capitalist regime. Regulation, in this case, does not refer to government regulation, but could be understood better as normalization or stabilization. Explaining the key features of the regulation approach, Jessop writes:

> "Accordingly, the RA provides a retroductive account of the changing combinations of economic and extra-economic institutions, norms, and practices that help to secure, if only temporarily and always in specific economic spaces, a certain stability and predictability in economic conduct and accumulation - despite the fundamental contradictions and conflicts inherent in capitalism." (89)

It should not be overlooked in the quote above that the regulation approach focuses on '*changing combinations*'—a defining feature of the  approach is its ability to examine emerging or historically-specific features of capitalism, evidenced by the fact that the approach developed in conjunction with attempts to explain the stability of Atlantic Fordism. This historically-specific lens of the regulation approach could have useful applications to this research. It has been argued that the digital economy is a new era of capitalist expansion, akin to the scale of influence as the Fordist period (Kennery & Zysman, 2016), which makes the regulation approach an appropriate framework for examining the processes at play within digital capitalism.

It is because of the regulation approach that I ask the sub question "how does the platform economy stabilize itself?". While it is fruitful to ask about the ways that the platform economy generates value, to ask this question alone has the potential to ignore the ways that the platform economy works socially or politically to maintain its economic position. Therefore, the regulation approach opens the door for concepts and analysis of platform economy practices beyond what is strictly tied to accumulation.

## 4.2. Methodology: Philosophy in Practice

Research methodology also has bearing on the specific practices I partake in everyday as a researcher. Grounded theory in particular speaks to the way that research philosophy becomes practicable.

Grounded theory is a qualitative research methodology whose foundation is that theories and findings must develop from the data itself, e.i., be 'grounded' within the data. This means that researchers take a position that is self aware of bias and positionality, engage in practices like memo writing, and continuously work back and forth between synthesis and theory building and the data itself (Kalpokas & Radivojevic, 2021). For me, this looks like continuously rethinking my assumptions about my own research, being open to changes in the research question, allowing new questions to form, and moving between writing and working with data.

## 5. The Literature Review

### 5.1 Background on the literature review

A well-conducted literature review is an incredibly useful contribution to the advancement of scholarship. It becomes a go-to resource for researchers looking for an overview of the literature before beginning their own investigations, and more than any other kind of research literature reviews can provide an overview and point out gaps in knowledge (Okoli, 2015). As well, "by integrating findings and perspectives from many empirical findings, a literature review can address research questions with a power that no single study has" (Snyder, 2019). As a method whose primary material comes from past scholarly contributions, a literature review is able to connect what would otherwise be disparate literature to form novel scholarship. Because the

literature surrounding the platform economy is growing rapidly and coming from many different disciplines, a literature review is an incredibly suited method to contribute to this field of study.

There are many different kinds of literature reviews; differing in level of structure, literature type, data selection, kind of analysis, and objective. The highest standard for literature reviews is the systematic literature review (SLR) whose procedures originated in the medical sciences, but is now widely held as an example of rigorous literature review conduct across fields (Booth et al, 2016, p. 16). However, the standards for conducting a review in the medical sciences, for example, cannot be equally applied to all kinds of disciplines or research questions. One challenge is the difference between quantitative and qualitative data, and another being that not all evidence looks the same. This is why the systematic literature review has been elaborated on by authors to distill the practice into a set of principles and guidelines, with others translating these principles to qualitative research so that all kind of literature reviews can be structured in a clear and legitimate way (Booth et al., 2016; Onwuegbuzie et al., 2015; Okoli, 2015). In the remainder of this chapter I will elaborate on the tenants of a systematic literature review, and explain how I will use these to apply rigor to my qualitative investigation.

Fink (2010) explains that a review should be "systematic, explicit, and reproducible" (p. 3), and Booth elaborates that systematic means that the review follows scientific protocol in order to remove bias, have all aspects of study design and conduct follow a clear logic, and be well documented (Booth et al., 2016, p. 19). Booth et al. also they offer guide for how systematic approaches as possible for all data types. It should be noted, however, that not all writing on literature review methods classify reviews using qualitative data analysis as "systematic", for example, in Snyder's (2019) article she classifies reviews involving qualitative data as either "semi-systematic" . I believe that confusion of whether a qualitative review can be systematic can be resolved by understanding the nuance between *reproducibility* and *replicability* (Cram et al., 2020). There is a difference between reproducible and replicable, where reproducible means that someone can clearly follow the steps presented by the researcher, and replicable meaning that someone can follow the steps *and* come up with the same result. The strength of qualitative research is that instead of making sense of the world in black and white, it builds its arguments on the qualities of the world that only be understand from, inherently subjective, meaning making processes (Kalpocas & Radivojevic, 2021). Qualitative research provides insights and

context that are not possible with quantitative research, and when one works with qualitative data, the outcomes are necessarily unique to the contexts that research was conducted (Lincoln & Denzin, 2008, p. 191). However, when approaching a qualitative literature review systematically, research processes can be described *explicitly* to the point of *reproducibility*, but the results cannot be *replicable.* For this reason, it is possible for a qualitative review to still be systematic in approach even if not fitting the definition of a 'systematic literature review'.

In Snyder's writing on semi-systematic reviews, she highlights some of the strengths of a qualitative review. She writes that "In general, the review seeks to identify and understand all potentially relevant research traditions that have implications for the studied topic and to synthesize these using meta-narratives instead of by measuring effect size" (Snyder, 2019). In my review that is precisely what I aim to do; I will be uncovering ideas about the platform economy's value engine, while avoiding making total claims about the reach of particular narratives.

As for defining exactly what kind of review I am undertaking, I am challenged by the fact that there are not strong guidelines for reviews that include non-empirical content. As well as my material being qualitative, some of it is also non-empirical, for example, reviews or essays. For this reason, I describe my approach to be a patchwork, where I draw from multiple literature review guidelines. My review most closely resembles a semi-systematic review, however this review type has been criticized for lack of rigor and transparency in methods. I aim to overcome this limitation by employing systematic review techniques where possible and adapting guidelines where necessary. Throughout, I aim to provide a well-documented and reasoned methodology.

## 5.2  How to be systematic

In this subsection, I provide an overview of the different steps taken during the literature review according to best practices. Because I am taking a hybrid approach—applying systemic methods to non-empirical materials—I use this section to provide context for what 'systematic' looks like and discuss how these methods can work or be adapted to my specific review.

As semi-systematic reviews do not have clear guidelines for achieving rigor, scholarship on systematic reviews provides the best resource. Booth et al. presents the SALSA framework (Grant and Booth, 2009, within Booth et al., 2016, p. 27) as a guide for the phases of a systematic review, which include systematic approaches to literature **S**earching, Appraisa**L**, **S**ynthesis, and **A**nalysis (p. 27). In this section I discuss what each of these phases entail and how I apply the guidelines to my semi-systematic review.

### *Literature Searching*

A systematic approach to literature searching refers to the scope of the literature search, where exhaustivity is often synonymous with the SLR because it is seen as the best way to avoid bias or cherry-picking of the literature. As Rousseau et al. (2008) explain, "Systematic means comprehensive accumulation ... Reliance upon any sampling or subset of the literature risks means misinterpreting its diversity in findings, outcomes, methods, and frames of reference [emphasis in original]" (within Booth et al., 2016, p. 21) That being said, an truly exhaustive search of the literature requires a great deal of person-power, as Fink (2010) explains that to be comprehensive means to include all relevant databases, manual checks of databases, looking for yet be published material, and consultation with experts (p. 45). This comprehensive search is simply not viable for all researchers, even if they seek to be systematic. In Cooper's taxonomy of literature reviews, he provides several options in terms of scope, one of those being "exhaustive with selective citation" (1988), which could be less labor intensive option for compared to complete exhaustivity. However, this has been criticized for the potential of bias (Song et al., 2010, within Booth et al., 2016, p. 21).

The other options that Cooper presents include "representative" and "central or pivotal", where representative coverage means to use literature that embodies ideas of a larger group, and central/pivotal meaning research that has significant impact on the development of the literature (1988). These approaches are regarded as an appropriate alternative to an exhaustive search, as it has come to be recognized that "one-size-fits all" comprehensive approach is not the only way to be systematic, and that "fitness for purpose" is a more "appropriate aspiration" (Booth et al., 2016, p. 21).

The approach I am taking for searching the literature, presented in detail in Section 6, falls somewhere in between exhaustive and 'fit-for-purpose'. This is because I designed my search with the aim of being comprehensive in terms of selecting multiple appropriate databases and designing a keyword search that would collect as many perspectives as possible. That being said, it does not achieve the level of comprehensiveness outlined by Fink (2010), a necessary limitation due to time and researcher resources. Though my search falls short of being exhaustive, it does not quite fit into categories of "representational" or "central/pivotal" either. This is because I did not tailor my search towards finding the most influential or representative works. For this reason, the best way to describe my search is exhaustive, with limitations.

### *Quality Assessment (Appraisal)*

Quality assessment is an important part of literature reviews, and this is largely because it refers to two separate processes in a literature. One of these is assessing the literature base for inclusion or exclusion based on previously detailed criteria for relevance, which is known as *external validity* (Booth et al., 2016, p. 142). The evidence base is also assessed for *internal validity*, which refers to how trustworthy an article is in terms of bias and quality of scientific method.

Assessing for external validity includes a practical screen which includes questions like year of publication, resource type, language, and more nuanced inclusion criteria regarding the contents of the article (Okali, 2015).

When assessing for internal validity, articles are considered for both extrinsic factors and intrinsic factors that can affect the quality or trustworthiness of the findings. Extrinsic actors include factors such as notoriety of the author, place of publication, funding sources, and potential bias. Intrinsic factors refers to quality within the content of the article, such as the appropriateness of the methods, the presentation of findings, and whether the conclusions align with the scope of the research (Booth et al., 2016, p. 147-148). Assessing the internal validity of the literature is an important step when conducting a literature review that focuses on empirical findings, however, the standards for quality control when it comes to qualitative and non-empirical works is less clear.

Booth et al. describes that when it comes to qualitative research that there have been two camps of thought, one that believes that qualitative research is likewise responsible for conducting assessments of the literatures reliability and validity, and a group of thought that believes that "there are no quality criteria by which qualitative research can be assessed" (2016, p. 160) However, further research has found that in sample of qualitative evidence assessments, the vast majority had conducted some form of critical appraisal (Hannes and Macaitis, 2012, within Booth, 2016, p. 161), supporting the position that qualitative reviews should assess the reliability of their literature.

The issue becomes more complicated, however, when considering *non-empirical* qualitative research—which makes up a high proportion of the literature in my study, as I am seeking out theoretical contributions over empirical ones. It is simply not possible in many cases to, for example, compare an article's methods to their conclusions. For this reason, I have created my own criteria for assessing internal validity for non-empirical works, explained in Section 6.

Screening for external validity, relevance to the review, is also a challenge in the case of a theoretical study. A common framework used for assessing relevance is the PICO framework, in which researchers create criteria based on a work's population, intervention, context, and outcome (Booth et al., 2016, p. 144). Like with assessing internal validity, the PICO framework is tailored towards empirical research. Therefore, for screening for relevance, I have adapted a different criteria based on the content of articles, with the strong caveat that this criteria is much more open to subjectivity than frameworks like PICO.

In summary, while screening the literature I assess articles both for the relevance of their relevance to my research question and their trustworthiness as a source, however, the criteria I use to assess validity are somewhat limited and/or open to interpretation by the nature of a theory focused qualitative review.

### *Synthesis and Analysis*

Though synthesis and analysis are similar, in the SALSA framework they are split into two steps, with synthesis coming before analysis, because of how the steps would follow using quantitative data where the findings would be first graphed (synthesized), and then statements made from the

graphs (analysis) (Booth et al., 2016, p. 172). For the purposes of my qualitative review, such a distinction between synthesis and analysis is not as necessary, as both are narrative and conceptual processes of understanding the literature. A more important distinction in the steps of a qualitative literature review, however, is between data extraction and analysis.

Data extraction is the process of identifying the desired information from the source to then be able to compare findings across a body of literature (Booth et al., 2016, p. 173). For both quantitative and qualitative studies this is typically done with a data extraction form, which is a list of questions or fields about the research that is then filled out (Booth et al., 2016, p. 218). For some qualitative research, not all relevant attributes can be summarized in such a form. This is where the tradition of qualitative research can enrich the literature review process. For example, coding, which is commonly done to analyze documents or interviews in qualitative research, can be used with the literature of a review. The process of coding allows the entire content of an article to be included as potential data, and by assigning descriptors, or codes, to sections of text the literature becomes a rich source of information, patterns, concepts, and themes (Booth et al., 2016, p. 219; Onwuegbuzie et al., 2015; Bandara et al., 2015). For my study, I will both be using a data extraction form and using qualitative analysis software to code my literature.

## 5.3 Challenges and Opportunities

It is important to recognize that there are several limitations in my literature review design. One of these is that by nature research conducted by one person is less reliable than research by multiple or a team of researchers. In particular, when deciding inclusion and exclusion of articles, this is typically done by at least two researchers to ensure objectivity in the literature selection. All processes in this review, such as literature selection and data analysis, have the potential to carry my implicit biases.

As well as the risk of bias in solo research, not having a research team means that the review is not as comprehensive as it otherwise could have been, due to the lack of person power. For example, a snowball sampling method could have grown the number of relevant articles in the review, but was not feasible considering the constraints on time and labor.

Another significant challenge of this review is its use of qualitative, and often non-empirical, sources. This was a challenge because of the lack of established guidelines for appraising the quality of these kinds of materials. However, while this meant that the appraisal process was less straightforward, it prompted me to develop an inclusion criteria that was based on evaluating theory type. This solution meant that instead of a one-size-fits-all evaluation technique, my literature was evaluated on a basis directly tied to the needs and philosophy of my research. As well, by confronting the challenge of appraising non-empirical resources, I have the opportunity to build on the capabilities of literature reviews for concept development.

Lastly, I want to justify my choice to conduct a semi-structured review as opposed to a 'realist review' which is an explicitly critical realist review of theory (Okoli, 2015) or 'theoretical review' which has been recognized for its role in theory development (CITE broome). A realist review, while a systematic review of theory based in critical realism, is focused on evaluating theory in practice as a tool for social policy, and therefore can fall short for more general scholarly theory development (Okoli, 2015). Another option could have been a theoretical review, which is designed for examining a specific relationship between variables for the potential of generating a novel conceptual framework. However, while my research is focused on concepts, it is by design that my research question does not seek to evaluate the usefulness of the concepts found in the literature. To conduct a theoretical review, it would have required a much more narrow scope, and I decided to prioritize providing a broad overview of platform economy concepts rather than generating insights on a single facet. It is for this reason that my research does not seek to put forth any novel concepts regarding the platform economy, however, by providing a rich synthesis of the platform economy broadly, this research can equip future researchers to do exactly that.

## 6. Methods

### 6.1 Searching

In line with my grounded theory philosophy, I aimed to reduce the influence of my apriori assumptions about the state of the literature and what ideas were important. To do this, I began my review by scoping, which is the process of familiarizing oneself with the literature, its breadth, themes, and influential contributions. It is what I found in this process that guided my literature search design.

While designing the search, I aimed to be as exhaustive as possible, with some necessary concessions due to resource constraints. This meant designing a keyword search that would include articles across many disciplines and searching across three interdisciplinary databases.

The databases I searched are Scopus, Web of Science, and the International Bibliography of the Social Sciences. I chose these databases, in consultation with university librarians, because they are the largest databases with materials from the social sciences, including political science, economics, and interdisciplinary studies.

I decided to include articles only from 2014 onwards because it is after this point that the literature on the platform economy begins to take off (see Figure 2), as well as the fact that rapid technological advancements mean that ten year articles border on outdated. My search also includes only articles, excluding books and book chapters. Articles must be in English, and they must be peer-reviewed.
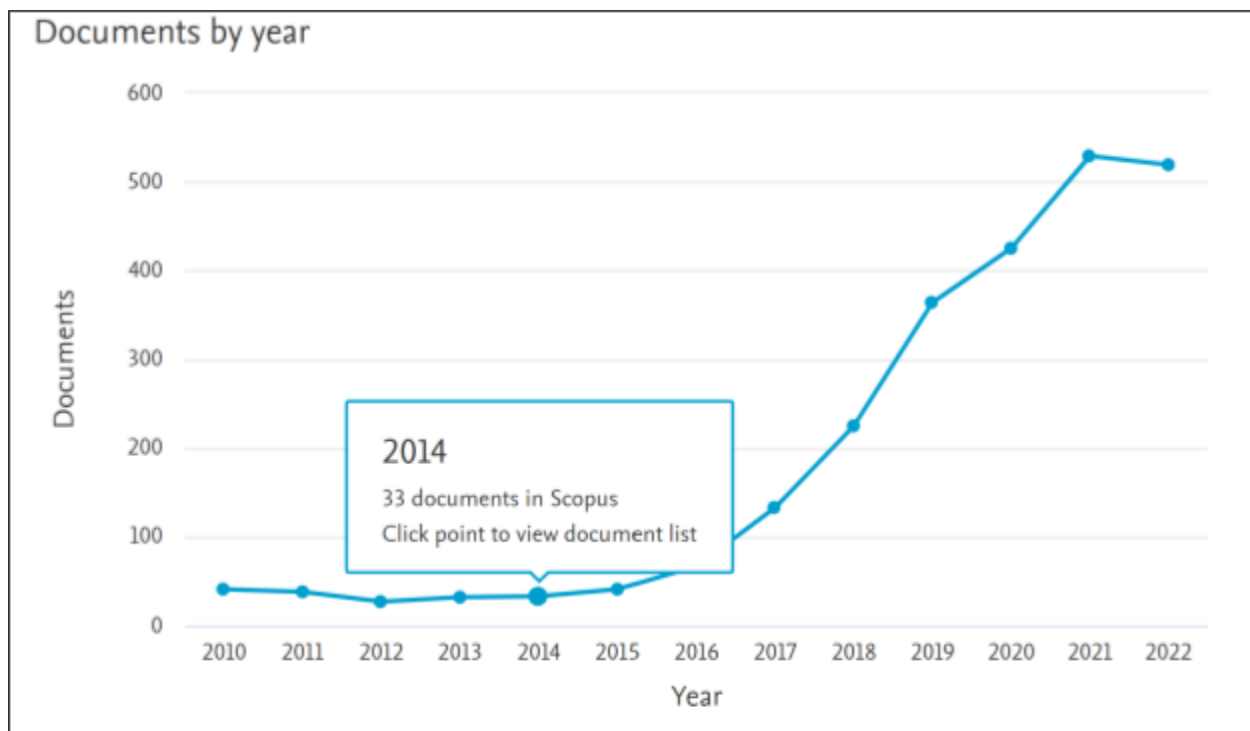


**Figure 2**. Graph mapping the number of search results by year from 2014-2022 in the Scopus database. The year 2014 shows 33 results, and the trend line shows a higher number of results every year after until 2021. Graph was generated by Scopus using the same search as was used in the literature review, full details found in Appendix A.

Because I designed a keyword search with comprehensiveness in mind, it also has a large potential to return irrelevant results, so I used a subject filter to reduce the number of results to screen. The categories on the subject filter differ across databases, but generally I selected to include articles in computer science, communications, business, economics, and social science. The full details of the search for each database is available in Appendix A.

### 6.2.1 Database Keyword Search

In order to be as comprehensive as possible in my search, I created a complex search string using keywords, and search functions like, AND, OR, and proximity indicators (which state that a search term must be within n number of words from another search term). My search breaks down into two main components: one section of the search that targets the platform economy through all its various synonyms, and another section that targets the business model. I used Mazurek's (2020) analysis of popular phrases in the platform economy as a reference for phrases to include as keywords. In order to target articles that examine value capture and creation, I had noted some examples of phrasing I had seen in my scoping of the literature. As well, using articles I previously identified that fit the scope of my research question, I used computer software Atlas.TI to conduct concept analysis on the full-text of these articles, which helped identify frequently terms, their variations, and their pairings.

The following is the keyword search string, color-coded to correspond to the function of each section. Table 3 presents the same keywords, with each section of the string divided into columns to illustrate how the search works functionally. This is followed by a written explanation and walkthrough of the search.

(((("digital" OR "platform*") NEAR/1 ("capitalism" OR "economy" or "economies" OR "sharing" OR "collaborative consumption" OR "gig" OR "market*" OR "crowdsourcing")) AND (("Model" or "structure" Or "logic" or "foundation" or "mechanism" or "process" or "system") NEAR/5 ("business" OR "financial" OR "economic" OR "earning" OR "revenue") OR (("extract*" OR "circula*" OR "intermedi*" OR "mediat*" OR "creat*" OR "accumula*" OR "driv*" OR "captur*" OR "flow*") NEAR/1 ("value" OR "rent*" OR "capital" OR "fund*" OR "asset*" OR "profit*"))))

*Table 1* Illustration of Database Keyword Search

| A. Platform Economy | | | B. Model | | C. Related to Business / Money | | | |
|---|---|---|---|---|---|---|---|---|
| Digital<br><br>platform | Economy<br>Capitalism<br>Sharing<br>Gig<br>Market<br>Collaborative<br>consumption<br>crowdsourcing | **AND** | Model<br>Structure<br>Logic<br>Foundation<br>Mechanism<br>Process<br>System | **NEAR** | Business<br>Financial<br>Economi<br>c<br>Earning<br>Revenue | **OR** | Extract<br>Circulate<br>Intermediate<br>Mediate<br>Create<br>Accumulate<br>Drive<br>Capture<br>Flow | Value<br>Capital<br>Rent<br>Funds<br>Asset<br>profit |

*Part A – targeting the platform economy (green)*

This section uses the OR function and proximity operators to make the search target different phrases and synonyms of the platform economy with many possible pairings and combinations. The phrase must include either "digital" or "platform", and it must be directly next to a word that is commonly the second half of a phrase referencing the platform economy. Different combinations that this search would target include, for example: digital sharing, platform capitalism, gig platform, digital markets. Both "collaborative consumption" and "crowdsourcing" stand on their own as a complete phrase, but in order to make sure they are being used in the context of digital platforms, likewise this search asks that they be paired with "digital" or "platform".

This is then connected to the second part of the phrase with AND, meaning both parts are required for an article to appear in the search.

*Part B  (Orange) & C (blues) – the financial model*

The remaining section of the search all works together in order to reference wording that would be present in text discussing a business model / mechanism of value capture / system of capital flows.

Part B, in orange, lists different nouns that are used when discussing a model or system. The OR function separates these synonyms meaning that only one of these words needs to be present.

Part B is then connected to Part C, represented in blues, with a proximity operator. Part C provides different phrases related to economics and value. The proximity operator that connects

part B and part C says that a phrase from each section must be found within 5 words of each other. In other words, a noun for model must be used closely together with a phrase related to value.

Part C is broken into two parts, shown by the different colors of blue, in order to target many different expressions surrounding economic processes. The first part of Part C, in light blue, lists common descriptive words used in pairing with Part B, for example: business model, economic process, financial structure. The second part of Part C, in dark blue, instead focuses on the active phrases that describe financial flows—verb and noun pairings. This dark blue section is therefore made up of two groups of words, one with verbs often used when discussing money, and one with nouns that refer to economic value or assets, and these groups are connected with a proximity operator that says the verb and the noun must be next to each other. This section is still connected to Part B, so it is required that this verb/noun pairing must be within 5 words of a model phrase. This could for example look like, "process of creating value", or "…system that accumulates assets".

### 6.3 Appraisal and Screening

This search generated thousands of articles, the majority of which were irrelevant to my research question. To screen the results I used a literature review software called Covidence, which provided an interface for logging review decisions as well as automatically filtering out duplicate results. I reviewed the articles in phases, at each phase considering the articles more closely. In the first stage I reviewed the title and abstracts of the articles only, and then selected "yes", "no" or "maybe" based on whether I thought they were relevant to my research question. "No" articles were excluded, "yes" articles were moved to the next phase—full text review—and for "maybe" articles I re reviewed their title and abstract, and if I was still unsure they also moved to full text review.

In the second phase of screening for relevance I used the full text to decide whether an article should be included or excluded. In this stage I was looking for articles that had generalizable claims about the platform economy, situated the platform as the main object of study, and made claims about the way that platforms derive economic value. Included articles moved on to the extraction phase, where I began to distinguish between articles based on their theoretical content.

As well considering the relevance of the articles, it is also important to consider its validity in terms of trustworthiness. For articles within this review that use quantitative or qualitative methods, I reflected on whether the methods as described by the authors make sense, and if the scope of their findings is appropriate considering their methods. For non-empirical resources, I considered more carefully the use of outside evidence, as well as the logic of their arguments. Writing on theory development, Jessop states "an explanation would be adequate if, at the level and degree of complexity in terms of which a problem is defined, it establishes a set of conditions that are together necessary and/or sufficient to produce the effects specified in the explanandum" (CITE), in other words, a theory must reasonably address cause and effect of the process at hand.

### Screening for theory

With the subject of this review being how authors have theorized value capture in the platform economy, it becomes important to further distinguish what kinds of theories are relevant. Drawing on critical realism, there are a few ways to assess and categorize theory. Both my critical realist position and imagined audience social science researchers, has led me to focus my review on articles that use "conceptualizing descriptive theory", elaborated on below.

According to Morrow and Brown (1994, within Danermark et al., 2002, p. 118), there are three main types of theory, metatheory, normative theory, and descriptive theory--where descriptive theory can break down into further categories. Metatheory refers to theories that focus on the philosophy of science and knowledge; for example, positivism and phenomenology are metatheories. Normative theory includes arguments about how something *should* be, writings that are oriented towards advocacy and social change. Descriptive theory then focuses on describing or telling something about the world. They are "claiming to describe and characterize more fundamental properties, structures, internal relations and mechanism" (Danermark et al., 2002, p. 119). In the context of this review, descriptive theories are the most relevant.

However, Sayer (1992, within Danermark et al., 2002, p. 119) further distinguishes descriptive theory into "ordering frameworks" and "conceptualizations". Ordering frameworks work to make

unproblematic statements, models, or hypotheses regarding observed variables and their relationships. Ordering frameworks can include formal models, empirical work, and typologies. Conceptualizations, however, focus on understanding events or phenomena by constructing concepts, in other words, "abstracting and isolating fundamental qualities", of actors and mechanisms (Danermark et al., 2002, p. 119).

In this research I am focused on conceptualizing theory, as I am not interested in *what* mechanisms of value capture have been identified, but instead, *how* have these mechanisms been considered.

After I screened articles for relevance, I then rescreened the relevant literature and marked what theories were present, metatheory, normative theory, descriptive - ordering framework, and descriptive - conceptualizing, allowing for more than one choice to be selected. The line between ordering versus conceptualizing works can be blurry, so there were a few markers I looked for to help my categorization. For example, mentions hypothesis formation or hypothesis testing are indicators of ordering theory. On the other hand, emphasis on phrasing, like terms in italics or quotations, or nouns turned into phrases, are an indicator of conceptualizing.

The articles I identified to contain conceptualizing theory were then coded for in-depth content analysis.

## 6.4 Data extraction and analysis

After reviewing the included articles and classifying them by theory type and level of relevance, I coded the set of articles that were most relevant and contained conceptual theory. Coding is a practice typically used in qualitative research that annotates documents in a way that helps researchers analyze content within documents and between documents. I used a combination of coding techniques, beginning with initial coding, or open coding. For this process, I randomly selected five articles from my sample and "open coded", meaning that instead of preset ideas of how I would categorize the text, I created codes spontaneously. This process gave me an idea about what kinds of codes could emerge from my data and what strategies I find useful for understanding my data. This also follows from my grounded theory approach, where ideas emerge from the data instead of ideas being applied to the data. From the insights of initial

coding, I defined a coding strategy that I used for all articles. The following table presents the coding strategies identified after open coding, their purpose, and examples.

*Table 2* Coding strategies that emerged from open coding. Code descriptions from Saldana (2016)

| Coding Method | Purpose | Example |
| --- | --- | --- |
| **Structural coding** | Identifying content of the document for future reference | ● Research question<br>● Study methods<br>● scope |
| **Descriptive coding/ Conceptual coding** | Descriptive coding identifies important content with nouns, typically one word, and is useful for identifying key words and ideas through frequency analysis. Conceptual coding abstracts the text into the bigger picture, typically with a 2-5 word phrase. I decided to group descriptive and conceptual coding together because the content I am coding deals heavily with concepts and big picture ideas. This requires more conceptual coding, to the point that it fills the role typical of descriptive coding. | ● Smartphone<br>● User participation<br>● Network effects<br>● Commodification of personal data |
| **In vivo coding** | In vivo codes are typically used to capture the voice of participants by using the same language as the participant along with quotation marks. In this case, I am using in vivo coding to capture the *concepts*, by using quotation marks around specific phrases that hold a meaning that are specific to their context. Often concepts in articles can be found already in quotation marks or italics. In these cases, as well as when authors introduce a new concept or coinage, I code the exact phrasing along with quotation marks (as typical of in vivo coding). This both helps identify theory and concepts and also distinguishes my own abstraction of content while coding from the precise meanings of the authors. | ● "surveillance capitalism"<br>● "labour-service"<br>● "platform ecosystem" |

| Subcoding | "second order tag assigned after a primary tag to detail or enrich the entry" This helps create subcategories within a code to see the different forms it takes. | <ul><li>Sharing platform - accommodation</li><li>Sharing platform - transportation</li><li>Discourse - political</li><li>Discourse - cultural</li></ul> |
|---|---|---|
| Eclectic coding | More than one coding technique at the same time | Ei. Combining the coding strategies above |
| Simultaneous coding | Coding the same quotation with more than one code | |

Whereas open coding is often in conjunction with the research question to make a code book, a list of predetermined codes, I decided to continue to use an open coding technique to allow for greater diversity of insights and themes. However, I did limit my coding strategies to the ones presented in the table, and I did create pre-set structural codes.

After coding the articles, including re-coding the articles used for test coding, I began to group together codes according to ideas and themes. For example, grouping together codes related to regulation, or labor. Working with codes is more than organizing the data, it is the first stage of analysis. The code groups that are created early on are the ones that are most prevalent in the data, either in terms of volume of codes or frequency of use, and therefore identify themselves as important for analysis. As well, grouping codes together because they are relevant to each other, either from familiarity with the material or shown through code co-occurrence (the software shows which codes often are attached to the same quotations) is a way of identifying structures or entities, mechanism, and powers. The software not only shows how often the codes were used, but also which articles used them, making it possible to see which themes appeared across the most articles.

As well as analyzing the codes for themes and structures, I was able to use in vivo and structural codes to identify concepts and theoretical influences. The way that I used in vivo codes to make note of instances of the authors using original concepts or referencing concepts meant that I had a generated list of all the concepts present in the literature. During the coding process I also coded any citations that were present in a quotation that was receiving other codes, indicating that the citation was relevant to a main point or specific idea. This allowed me to see which

specific authors or theorists were by multiple authors. Because I did not code every citation while coding, I used the 'search and code' function on Atlas.Ti to search the document for the citations I had already identified to get a more accurate number of reference incidences across the literature. Though it is possible that I missed important citations by not coding them to begin with, by coding citations and using the search-and-code function I was able to generate a list of the most influential authors and theorists referenced in my review literature.

# 7. Findings and Synthesis

## 7.1 Concepts and influences from the literature

In line with my goal of providing a resource for further researchers through this review, this subsection offers tables that outline important concepts, influences, and contributions identified in the literature.

### 7.1.1 Concepts

The following table (Table 3), offers a glossary that answers my research question: *What specific concepts emerge within the literature?*

***Table 3*** *Glossary of relevant concepts*

| Concept | Definition | Origin | Reference from review literature |
|---|---|---|---|
| Ability machine, entrepreneurs of themselves | *State of being referring to peoples own investments into their ability to operate as economic subjects.*<br><br>*Relates to how people embrace various aspects of the platform economy, though it is the expansion of labor into new areas of daily life, because they have internalized neoliberal norms of profit-seeking.* | (Foucault, 2008) | (Ettlinger, 2017; Sadowski, 2019) |
| Behavioral surplus | *Data produced from users' interactions and sharing on the internet* | (Zuboff, 2019) | (Fourcade & Kluttz, 2020) |
| Bio-capitalism | *A form of capitalism where all aspects of human nature can be utilized for profit-making.* | (Fumagalli & Morini, 2010) | (Fumagalli et al., 2018) |
| Cognitive capitalism | *Theorized by Italian postoperist thinkers to be the present stage of capitalism where multiple transformations center on the role of information, specifically knowledge, cultural practices, and language as a source of value.* | Several, e.g., (Boutang, 2011) | (de Rivera, 2020, Del Masso et al., 2021) |

| Cost-compatibility ratio | *Firms' operational logic of balancing cost minimization—reducing and outsourcing costs—while still maximizing oversight and control over production* | (Yeung & Coe, 2015) | (Howson et al., 2020) |
|---|---|---|---|
| Data colonialism | *The process of technology corporations moving into new markets in the global south, presenting their products as a subsidized service, while at the same time gaining new sources for data and locking users into their product.* | (Thatcher et al. 2016) | (Sadowski, 2019) |
| Data imperative | *A driving force for contemporary organizations that "demands the extraction of all data, from all sources, by any means possible" (Fourcade & Healy, 2017).* | (Fourcade & Healy, 2017) | (Sadowski, 2019) |
| Dialectic tuning | *The patterns platform firms employ to orchestrate resources and interact with network partners to leverage capabilities at different stages of scale* | (Zeng, 2022) | (Zeng, 2022) |
| Digital enclosure | *The fencing off, or private accumulation, of data given freely through interactive interfaces* | (Andrejevic, 2007) | *Meier & Manzerolle, 2018) |
| Digital persona | *The collection of data points attributed to an individual* | Clarke.. | (Clarke, 2019) |
| Functional sovereignty | *The dominance of firms, whose large digital product networks and data sources guarantees their market position, leading to levels of power that could parallel the sovereignty of states.* | (Pasquale, 2017) | (Barns, 2019) |
| Guerilla capitalism | *Behaviors of platforms corporations that actively exploit legal gray zones or challenge existing laws to make profits.* | (Chan & Kwok, 2021) | (Chan & Kwok, 2021) |
| Heteromated labour | *Labour provided freely by platform interface users that generate value for the interface—for example, user interaction data, completing CAPTCHAs, and contributing user generated content.* | (Ekbia & Nardi, 2017) | (Fourcade & Kluttz, 2021) |
| Performativity of circulation | *Socio-spacial dynamic within platform and online where the act of sharing and interacting with the web, or circulating information and data, is a performance that socially reinforces others relationship to technology and online sharing* | (Mackenzie, 2005) | (Barns, 2019) |
| Prosumer | *Refers to the dual role of internet users, that as they consume content they are likewise creating valuable data. Prosumer is a combination of producer and consumer.* | (Ritzer & Jurgenson, 2010 | (Bearson et al., 2020) |
| Quantified self | *The active creation of data regarding one's personal habits and health through wearable technology, e.g., sleep tracking, generating a rich data profile for all aspects of one's life.* | (Lupton, 2016) | (Clarke, 2019) |
| Regulatory entrepreneurship | *The practice of pursuing a line of business in an area that is legally grey, contested, or unestablished, so that the firm can have an active role in shaping regulation in favor of firm profitability.* | (Pollman & Barry, 2017) | (Chan & Kwok, 2021) |
| Rentier | *A view of platform operators as "owning the means of production in an information society", placing them in the position of rentiers or gatekeepers who intermediate access to information and online services (Barns, 2019).* | Several, e.g. Rigi & Prey, 2015; Sadowski 2020 | (Barns, 2019; Howson et al., 2022) |
| Surveillance capitalism | *A form of capitalism led by digital firms where the aim is "to predict and modify human behavior as a means to produce* | (Zuboff, 2015; Zuboff, 2016) | (Clarke, 2019) |

| | | | |
|---|---|---|---|
| | *revenue and market control" (Zuboff 2015, 2016, within Clarke, 2019).* | | |
| Surveillance realism | *An update to the concept of 'capitalism realism' that refers to "the lack of transparency, knowledge, and control over what happens to personal data online" leading to 'widespread resignation' regarding the state of data collection and processing (Dencik & Cable, 2017).* | (Dencik & Cable, 2017) | (de Rivera, 2020) |
| Universal intermediary power | *Analogous to the power wielded by financial institutions that made them 'too-big-to-fail', digital firms that achieve market dominance are relied upon by whole societies for the functioning of daily life. As intermediaries of everything, they have a dual power of monopoly and society's vested interest in their operations to continue.* | (Curran, 2020) | (Curran, 2020) |

The table presents a compilation of  key concepts that have emerged from the literature review, encompassing a wide range of themes related to the contemporary digital economy and its implications for society. These concepts include themes like labor and power dynamics, data and surveillance, regulatory challenges, and ideas of the self.

One prominent theme explored in the table is the relationship between labor and the digital economy. Concepts such as "ability machine, entrepreneurs of themselves" and "heteromated labor" examine the ways in which individuals invest in their abilities to operate as economic subjects and the role of freely provided labor in generating value for platforms. Additionally, the concept of "cognitive capitalism" explores the transformation of capitalism in the digital age, emphasizing the significance of knowledge, cultural practices, and language as sources of value.

Another important theme addressed by the concepts is the role of data and surveillance in the platform economy. Concepts like "behavioral surplus" and "data imperative" highlight the production and extraction of user data, shedding light on the practices employed by digital platforms to predict and modify human behavior for profit. The concept of "surveillance capitalism" goes further by examining the overall aim of digital firms to control and monetize human behavior through data collection.

Power dynamics and regulatory challenges are also key themes touched upon by the concepts in the table. Concepts like "digital enclosure" and "rentier" explore the concentration of power in the hands of platform operators and their ability to control access to information and online services. Additionally, concepts like "regulatory entrepreneurship" and "data colonialism"

highlight the challenges posed by legal gray areas and the expansion of digital firms into new markets, often influencing regulatory frameworks in favor of their profitability.

Finally, the societal impacts of the platform economy are addressed by concepts such as "performativity of circulation" and "universal intermediary power." These concepts examine how online interactions and the circulation of information reinforce societal relationships with technology, as well as the growing reliance on digital platforms for daily functioning.

### *7.1.2 Influences*

As well as taking note of specific concepts in the literature, I used coding software to track important references and influences throughout the texts. In this subsection I present these findings, in response to my research question: *What are common influences across the literature?*

I separate these influences into two groups, influences that write explicitly on the platform economy, and influences that do not. In Table 4 I outline various philosophers' whose ideas are most commonly used to discuss the digital economy, despite not writing on the digital economy explicitly themselves. The table states the theorist corresponding to the number of articles in the review that mention them, as well as how theories are connected to dynamics seen in the contemporary digital economy.

*Table 4* *Most popular theorists referenced within the literature. All are philosophers who do not reference the contemporary digital economy, but have been applied to the platform economy by the authors in this review. Here n refers to the numbers of articles that mention the theorist.*

| n = | Theorist | Context |
|---|---|---|
| 12 | Karl Marx<br><br>*(Marx, 1887 within Zhu; Marx, 1990 within Sadowski, 2019)* | Marx, as an influential philosopher and political theorist, is mentioned most often in the reviewed literature in relation to other theorists who followed after him. As well, some authors discuss his labor theory of value (LTV) in order to discuss the relationship between work, technology, and value. |
| 7 | David Harvey<br><br>*(Harvey, 1990 within Meier & Manzerolle, 2019 ; Harvey, 2005, within Del Masso et al., 2021)* | Harvey is a Marxist economic geography, whose contributions are referenced in the literature to discuss the historic and current trajectory of capitalism, especially in regards to expansion on cultural and spatial frontiers. This includes his theories of 'flexible accumulation' and 'spatial fix'. |
| 7 | Autonomists (e.g. Antonio Negri, Paolo Virno, Maurizio Lazzarato)<br><br>*(Moulier-Boutang, 2011 within de Rivera; Vercellone 2007, 2010 within Fumagalli et al., 2018)* | Autonomism, a social movement and theory that has roots in Italian *operismo*, is an approach that extends Marx's ideas of the working class to all of society by considering the labor that is unaccounted for performed outside the traditional waged labor. 'Cognitive capitalism' and 'immaterial labor' are significant contributions from this tradition employed in the articles of this review. |
| 6 | Foucault<br><br>*(Foucault, 2008 within Ettlinger, 2017 and Gregory & Sadowski, 2021)* | A French philosopher who was focused on ideas of power, knowledge, and institutional control. His ideas of 'biopower' and 'entrepreneur of themselves' are used by the authors within this review in order to discuss workers as active economic subjects and the way that the norms of a regime are internalized by individuals. |
| 4 | Bourdieu<br><br>*(Bourdieu, 1986 within Fourcade & Kluttz, 20202 and Sadowski, 2019)* | Bourdieu was a French sociologist who theorized that there are forms of capital distinct from economic capital—social and cultural capital. Within this review author's use this contribution to understand ways cultural and social capital function on platforms to strengthen networks and translate to economic capital. |
| 4 | Gilles Deleuze<br><br>*(Deleuze, 1995 within Gregory & Sadowski, 2021; Deleuze, 1992 within de Rivera, 2020)* | Deleuze is a philosopher who theorized future outcomes of society's melding with machines, where the integration of computerized machines results in a 'society of control'. Deleuze's theory is referenced by the authors of the review to consider how his prediction relates to our contemporary platformed society, especially in relation to users' subjectivities. |

Karl Marx emerges as the most cited theorist, with 12 articles mentioning his work. It is important to note that Marx is also often mentioned in reference to authors who have come after him, which may contribute to his high number of mentions. Most commonly authors within this review use his ideas regarding the movement of capital and role of labor. His labor theory of value has been put into a contemporary context to examine the connection between work,

technology, and value within the platform economy. David Harvey, a Marxist economic geographer, also finds his work influencing digital economy scholars. His contributions are often used to explore the historical and contemporary trajectory of capitalism, particularly in terms of expansion on cultural and spatial frontiers.

Autonomists, or authors who write within the neo-workerist approach, also influence ideas of value within the platform economy. Autonomism, originating from Italian operismo, extends Marx's ideas beyond the working class to encompass the labor that exists outside traditional wage labor. The concept of 'cognitive capitalism' within this tradition is particularly influential.

Foucault, who is known for his exploration of power, knowledge, and institutional control, appears in six articles. Authors utilize Foucault's ideas of 'biopower' and individuals as 'entrepreneurs of themselves' to examine how workers are positioned as active economic subjects within the platform economy. This also involves investigating how norms and virtues of productivity are internalized by individuals. Another French philosopher, Bourdieu, is found in the review as well. His theory of forms of capital is used to understand the kinds of capital that operate on and through platforms.

Lastly, the philosopher Gilles Deleuze influences discussion of surveillance and society. His theory of a future society merging with machines, resulting in a 'society of control,' is used to explore the relevance of his predictions to our contemporary platformed society. Authors in the review consider how this theory relates to users' subjectivities and the dynamics of control within the platform economy.

Overall, the analysis of the table highlights prominent theorists whose ideas and concepts have been applied by the authors of this review in new contexts to further conversations about the platform economy.

In addition to philosophical influences, through coding I was able to find the most popular contributors to platform economy literature, within the review articles. These contributions are presented in Table 5.

*Table 5* *Most popular contributors/contributions referenced within the literature, specific to debates on the digital economy. Here n refers to the numbers of articles that mention the contributor.*

| n= | Influential contributor | Cited work within literature |
|---|---|---|
| 14 | Nick Srnicek | "Platform Capitalism", 2016 book |
| 9 | Tiziana Terranova | "Free Labor: Producing culture for the digital economy", 2000 article |
| 8 | Paul Langley & Andrew Leyshon | "Platform capitalism: The intermediation and capitalisation of digital economic circulation", 2017 article |
| 8 | Jose Van Dijck | Various contributions cited, the most common one being "The Platform Society", 2018 book. |
| 8 | Christian Fuchs | Several contributions cited, no one more than another, e.g. his 2011 article "New Media, Web 2.0 and Surveillance" |
| 7 | Shoshana Zuboff | Creating the concept 'surveillance capitalism', her 2015 book and 2019 article are cited equally |
| 7 | Trebor Scholz | "Digital Labor: The Internet as a Playground and a Factory", 2012 book |

The table provides insights into common influences across the literature in the field of platform studies by identifying the most popular works and authors within the specific context of the digital economy. By examining the number of citations each work or author has received, we can gauge their influence and prominence within the literature.

The table highlights several recurring influences in the field. For example, Nick Srnicek's book "Platform Capitalism" is referenced by more than half of the articles included in the review, and Tiziana Terranova's "Free Labor: Producing culture for the digital economy" is cited by more than a third. Other influential contributors include authors such as Paul Langley and Andrew Leyshon (who often publish together), José van Dijck, Christian Fuchs, Shoshana Zuboff, and Trebor Scholz, , with varying popularity among the review articles. These authors have contributed important insights and research on platform capitalism, digital labor, platform governance, and the social and economic implications of the digital economy.

By examining the popularity and citation counts of these influential works and authors, we can identify common influences across the literature and recognize the key voices shaping the discourse in platform studies. These influences serve as touchstones for researchers and provide a foundation for further exploration and development of the field.

**7.2 Foundation of platform value**

Throughout the literature on the platform economy and how they capture value, there are three core components that present themselves again and again as central to value processes. These are data, labor, and the platform structure. In this section I pay attention to each of these and provide an overview of the different conceptual understandings the articles of this review give to data, labor, and platform structure. In doing so, this subsection introduces key tensions and processes in the platform economy. As well, by examining the foundation of the platform economy and the surrounding arguments, this section sets the stage for understanding the concepts and value processes discussed later on.

*7.2.1 Data*

A defining feature of the platform economy is data, which is the information a platform collects about its users. This information is used to improve the platform, land better advertising deals, and generate insights for launching complementary products, just to name a few examples. Data is such a crucial resource for platform companies, especially in the start up stage, that it is common practice for digital services to be given for free—in exchange for user data of course. Throughout this thesis, data plays a role in nearly all, if not every process for value creation in the platform economy. It is for this reason that the analysis of the literature in this review begins here by presenting some of the ways data is conceptualized.

Data is central to platforms because it provides value for the platform, but the specific kind of value is not understood by all the same way. This review finds three main conceptualizations around data value: data as a commodity, data as an asset, and data as capital.

The view of data as a commodity can be seen in Nick Srnicek's influential book *Platform Capitalism,* which has been described as providing "one of the first systemic Marxist interventions into  the discourse around data-driven digitalization and the future of work" (Fumagalli et al., 2018). In his book Srnicek argues that $21^{st}$ century capitalism is centered on data. He says that, "should consider *data* to be the raw material that must be extracted, and the *activities* of users to be the natural source of the raw material. Just like oil, data are a material to be extracted, refined, and used in a variety of ways. The more data one has, the more uses one can make of them" (2017, p. 40). Though Srnicek does not explicitly label data as a commodity, the comparison to oil makes clear the role of data as a material value flow. Data as a commodity

is also seen is the discussion of "commodification" present in many works, where the treatment of personal data leads to the commodification of culture or knowledge (de Rivera, 2020).

 Data has also been described as an asset, and this view emphasizes the relationship between platform and finance, in particular the way that the data a firm owns becomes an object for financial speculative value. Understanding data as an asset means that data is valuable even if it does not have a purpose in the moment, because it could be useful later on, be sold, or simply add to the company's holdings. Howson et al. write that "platforms are argued to be  betting on their future ability to valorize that data as a distinct asset class, either by improving the efficiency of their  own (automated) processes, by using them to exert power, or by selling them." (2019, referring to Van Doorn & Badger, 2020). When data is valued as an asset, it takes on value that could exist down the line, and therefore platform forms who own data are able to leverage this for financial investments (Howson et al., 2022). Therefore data as an asset is key to the relationship between platforms and the venture capital that fund them.

Lastly, in his 2019 article, Sadowski argues for a new understanding of data—data as a distinct form of capital. This is response to the dominant view of data as a commodity, and he instead presents a theory of 'data capital', which draws on both Bourdieu's and Marx's theories of capital.

Bourdieu's theory of capital proposes two forms of capital, social and cultural capital, that are distinct from economic capital but which under certain conditions can be converted to economic capital, and are "at their root, 'transformed, disguised forms of economic capital' (p. 251)" (Bourdieu, 1986 within Sadowski, 2019). Sadowski argues that data capital is "more than knowledge about the world, it is discrete bits of information that are digitally recorded, machine processable, easily agglomerated, and highly mobile", and like Bourdieu's forms of capital, it is a distinct form that is convertible and closely tied to economic capital.

As well, Sadowski applies Marx's theory of capital to understand data capital's patterns of circulation and cement its distinction from a 'commodity' understanding. In Marx's theory, a commodity can be sold for money and used to buy another commodity. The goal of this exchange is both transformation and the use-value of the purchased commodity. For example, if I were to carve a spoon, sell it for money, and buy an apple, I would have successfully transformed my labor power into something I can eat, and the cycle is complete. On the other hand, in a

capital exchange, I would use money to buy a ring, which I could sell to someone else for even more money. In this exchange the original value of the money is never lost, and instead increases. As well, where in a commodity exchange the cycle ends where the commodity is used up, the exchange of capital does not end, and instead can be repeated infinitely.

Data, which has a huge capacity to be created, collected, stored, and processed, as well as extremely valuable to firms that collect it, therefore mirrors Marx's description of capital exchange. Sadowski argues that data capital is then "driven by the logic of capital accumulation as described by Marx. 'The circulation of money as capital is an end in itself, for the valorization of value takes place only within this constantly renewed movement. The movement of capital is therefore limitless' (Marx, 1990: 253)."

Reconfiguring an understanding of data not as a commodity, but as capital, Sadowski suggests has important implications. One of these being that applying Marx's understanding of capital to data—the need to accumulate and continuously circulate—can be useful for understanding the rapid growth in data collection practices and the companies involved. Sadowski calls this a "data imperative", a logic that describes how platform companies constantly seek out new sources of data.

Secondly, the distinction of capital versus commodity is important rhetorically. Sadowski points to the popular usage of the term 'data mining' which constructs data as a passive nature resource to be harvested. He argues that more fitting would be 'data manufacturing', as data does not exist without processes of abstraction and valorization. Understandings that allude to data as naturally available works to obfuscate the fact that data is often taken from users or is created by users interacting with technology. In fact, many consider the way that users produce data to be a form of labor, as discussed below.

### 7.2.2 Labor

Another core component within the platform economy is work and labor. There are many kinds of work within the platform economy, from the traditional jobs that people have within the technology sector, to the jobs that are native to platforms, and the kind of 'work' that is performed for free by platform users. Labor is central to the generation of value, and is central to

many of the arguments within the review literature. Two articles from the review in particular explore the nature of labor within the digital economy, providing useful definitions and examples.

In their 2020 article, Bearson et al. examine the way that the platform economy has displaced or changed 'old' forms of work, created 'new work', and reconfigured how value is created. In doing so they present a taxonomy of work within the platform economy. In particular, they distinguished between value capture that "occurs *within* the platform firm" versus that which "is *enabled by the platform ecosystem*" (Bearson et al., 2020, emphasis in original). I will summarize the main components of their taxonomy here, as it helps to illustrate the activities that make up platform-work and helps set the stage for further discussion about how the platform economy operates.

Their taxonomy breaks up into three main headings: platform, platform-dependent businesses, and prosumer. 'Platform' refers to work that is hired by the platform itself, for example, a programmer at Google. This is what they referred to as work that occurs within the firm. The other two headings refer to the work that is "enabled by the platform ecosystem". I define the platform ecosystem in more detail in the following subsection, but in short, it refers to a network of connected businesses and software applications. The reason that Bearson et al. differentiate that direct employees are labor within a *firm* and the other kinds of labor are connected to an *ecosystem* is because direct employees have a clear connection to a single employer, where other forms of platform labor may not have an obvious employer or their work is dependent on more than one platform.

The other two headings in Bearson et al. 's taxonomy are 'platform-dependent businesses' and 'prosumers'. Platform-dependent businesses include four sub-categories of work. These include 1. vendors (e.g., storefront owners on Amazon or Etsy), 2. contracted service workers (e.g., Uber drivers, Foodora delivery workers), 3. contracted remote workers (e.g. freelancers who use platforms like Fiverr) and 4. content creators (e.g. those who make content for YouTube, App Store, Spotify). It should be noted that this kind of work, especially two and three, is also what is referred to as 'gig work' or the 'gig economy'. The last kind of work Bearson et al. presents is 'prosumer' work, which refers to work that blends the roles of 'consumer' and 'producer'. The term has been around since the 1980's and has gained popularity to refer to the role of users on

the internet who, by consuming online content and using online services, at the same time produce online content or data (Ritzer & Jurgenson, 2010). This looks like, for example, posting on Facebook, leaving a Yelp review, or just clicking through a website (Bearson et al., 2020). While direct employees have contracts with a single firm and are most often salaried, work within platform-dependent businesses have less formal employment conditions and receive varying and/or inconsistent pay. The work performed by prosumers is not paid at all, however, fits within the realm of work because prosumers "produce [the] data from which value is extracted" (Bearson et al., 2020).

It is these last two headings of work, platform-dependent and prosumer, that are discussed most in the literature. Fumagalli et al., examine digital labor and its role at the heart of value creation processes in their 2018 paper, providing a case study of Facebook. Fumagalli et al. argue that the notion of 'digital labor' has been confused as it refers to two kinds of labor; the labor that Bearson et al. refer to as platform-dependent and 'prosumer' labor (2018). Fumagalli et al. presents the concept of 'digital work', in order to strengthen the distinction between these two types of labor. They argue that the platform-dependent work should instead use the term 'digital work', and that prosumer labor is better suited to be referred to as 'digital work'. They make this argument through a critique of Fuchs and Sevigini's 2013 paper which uses Marx and Hegelian analysis to examine digital labor and digital work, as well as by following the contributions of Tiziana Terranova (2004) who proposes the idea of 'free labor' in conjunction with the prosumer, which I will summarize here.

The reason that Fumagalli et al. argue to do away with the description of platform-dependent work as labor, is because they see a relationship between platform-dependent work and "a classical form of waged labor" (2018). While digitally-mediated work has unique conditions that distinguish it from traditional work, particularly the reduction of workers rights, it is a still waged labor relationship. It is prosumer work that is an entirely new form of accumulation, and therefore is in need of a distinction as 'digital labor' that is not 'digital work'.

The defining feature of digital labor for Fumagalli et al. is the blurring between 'life time' and 'labor time', where life time refers to the time one spends not working and instead engaged in lifestyle activities, and labor time refers to time one is working. Because the activities of a prosumer, i.e., scrolling through Facebook, are not waged labor, nor do the users of Facebook

consider themselves as 'workforce', it means that the concept "digital labor" is a better tool for discussing this new arrangement of labor.

Fuchs and Sevigini likewise make arguments towards the nature of digital labor and digital work, however, in their arguments they take the products of user interaction on platforms to be a form of 'work', and they, Fumagalli et al. argues, "take too lightly the relevance of the new composition of capital capable of capturing personal information and transforming it into big data". Fumagalli et al. both reject the characterization of prosumer labor as 'work' and stress the centrality of user data as the engine for accumulation within a platform like Facebook. The authors prefer Terranova's concept of "free labor" because it emphasizes how actions offered for free by users turn into the biggest value sources for a platform: "user data and audience attention" (Fumagalli et al., 2018).

Using Marx's theory of abstract and concrete labor, Fumagalli et al. explain the transformation of user activity into value for platforms, emphasizing the nature of labor that occurs outside of a waged arrangement. Fumagalli et al. argues that accumulation for platforms lies in the transformation of concrete labor into abstract labor. Concrete labor is aimed toward generating 'use value', and in this case, is the activity of users on platforms—it is concrete because it is tangible action and effect—the users press buttons and they receive the 'use value' of resulting enjoyment or interactions they have on the platform. Abstract labor is the manifestation of labor, removed from the context from which is generated, and its quantity is what determines its value. In this case, abstract labor is the data created from users' interactions on the web. It is the processing of user information into data, the transformation of concrete labor, that is what Fumagalli et al. refer to as the "'secret'" of accumulation for platform firms.

The authors stress that this transformation from concrete to abstract labor reflects the nature of capitalism which seeks value where there is none. They write, "In the moment when the waged labor is reduced, idleness and leisure are put to value. […] It is increasingly the cognitive, artistic and human abilities that are commoditized, salaried and hierarchized. Far from entering the 'end of work' era, we are in the presence of an 'endless work' age" (Fumagalli et al., 2018). This is why the authors devote much of their attention to understanding what activities 'work' versus 'labor' and how user activity becomes value—the authors understand that while prosumers do not fall under the conditions of traditional work, it is their labor all the same that generate value

for firms. This labor is not compensated, and means that even when one is not at work, their actions are labor all the same.

To conclude, Fumagalli et al. provide a concise definition of digital labor, a form, argued above, distinct from 'digital work' that is associated with platform-dependent work. They define 'digital labor' as, "the set of human activities realized  outside of working hours, captured by platform-based business models and transformed into value in  the form of big data." By understanding that user data is the result of a form of labor, the conversation about data can be elevated from a resource that sustains the platform economy, to the contributions of users sustaining the platform economy, as well as whether these practices are fair to the users who 'labor'.

### 7.2.3 Structure: Ecosystem

Platforms are often referred to throughout the literature not just as a singular platform firm, but as a platform ecosystem. This is because of the way that platforms organize their resources and partner with outside collaborators. Zeng et al. focus on the way that platforms orchestrate their resources in order to scale up their business in their 2022 case study, and they describe the boundaries of a platform as "porous". This is compared to traditional businesses platforms that have many more entry points for users and complementary businesses to shape their product. For example, within platforms, the users themselves shape the product because the platform is based on the active users—AirBnB does not work without users listing their properties, YouTube is nothing without users uploading their videos.

As well as platforms being open to user interactions, platforms are also porous in the way that they are open to external collaborators, or "ecosystem partners". A clear example of this would be the App Store, where application developers create products specific to a platform, in this case, Apple iOS. The application developers benefit from the audience they get access to through Apple, and Apple benefits from having more applications available to their audience. This is a case of a platform opening their Application Programming Interface, or API, which is a common strategy for platforms to foster innovation on their platform, attract external collaborators and users, and grow the capabilities of their platform.

The reason that platforms are ecosystems in a way that differs from traditional firms is because of their "externalization logic". More than providing content or products themselves, platforms are focused on leveraging the capabilities of outside partners and positioning themselves as a mediator. This can be in the form of an open API as described above, but this logic of externalization can also be seen in how platforms structure themselves as "asset light" in terms of physical resources. For example, AirBnb and Uber are property rental and transportation services respectively, but neither platform *owns* either the properties or cars used on their platform. Instead, they *externalize* their assets—and the associated responsibilities—by having platform users bring their property into the platform.

Another aspect of the platform ecosystem is the role of network effects. Network effects refers to the way that the larger the platform ecosystem or number of collaborators, the more likely that other collaborators will follow. Put another way: users beget users. The larger an audience is for a platform, the more attractive it is to participate in. This is the number one strategy for platforms to grow their business, which is why platforms firms devote much of their attention to experimentation on their platforms and attracting users.

In their case study of the firm Tencent, Zeng et al. examines the firm's strategies at different stages of the firm growth. Beginning stages focus on attracting users, which then provides an audience to attract external complementors. The data gathered from users allow the firm to scale further by honing products and attracting investors, and at a certain point network effects turns into 'lock-in', where a platform has established itself so firmly as the mediator for its services that it becomes the de facto provider site for users and ecosystem partners. To describe the way that firms organize their resources at different stages of growth, Zeng et al. create the concept 'dialectic tuning', a concept that highlights interplay between a firm, its capabilities, and its partners, leading to transformative effects for the entire ecosystem. Zeng et al., write, "according to the logic of 'dialectic tuning', resource combinations are situated, gradually emergent, co-constructed,  and co-transformed by a platform and its ecosystem partners."

### 7.2.4 Structure: Marketplace

As well as being understood as an ecosystem, a popular view of platforms is as two-sided or multi-sided markets, which is the language that dominates within economics literature on platforms. 'Multi-sided market' refers to the platform's role as an interface for both buyers and sellers, in other words, positioning themselves to multiple sides of the market. In this position, platforms are able to perform "highly efficient matching" of users seeking to buy, sell, or trade resources (Evans & Gawer, 2016). In providing the service of matching and orchestrating transactions, platforms are then able to take a commission of the sale or benefit from user traffic (Zeng et al., 2022).

This simple categorization of a platform as a multi-sided market, however, can be problematized. Many authors present in this review emphasize the platform as a *non-neutral* mediator, which can be obscured when simply referring to a platform as a marketplace. Moreover, one article in this review asks us to reconsider the platform as a marketplace completely, arguing that the kind of matching that happens on platforms does not follow the rules of a market. In Viljoen et al.'s 2021 paper, 'Design choices: Mechanism design and platform capitalism', the authors explain automated mechanism design, how platforms diverge from true markets, and the potential social harms of automated mechanism design.

Mechanism design originated as a set of methods from economic theory that aim to "achieve social welfare by harnessing the self-interested rationality and autonomy of individuals" (Viljoen et al., 2021). This is largely seen in innovations to auction designs, which through mechanism design were able to price things fairly when the participants of the auction are incentivized to keep information private (e.g., the price they are willing to pay). In the view of economists, then, mechanism design is a science for "engineering choice and distributing value" (Viljoen et al., 2021). In mechanism design, instead of predicting outcomes, interactions are reverse engineered so that desired outcomes are specified and then market conditions are created in order to generate that outcome. When it comes to mechanism design meeting the digital, it means that those "rules and conditions (i.e. mechanisms) are formalized as algorithms" (Viljoen et al., 2021).

Some examples of automated mechanism design on platforms include the way that Google handles auctions for advertisers, or the way that a social media organizes a user's news feed. Because of the huge amount of data that online platforms have access to, as well as the vast volume of transactions they process in a single moment, it means that mechanism design has

diverged from its original mission of social welfare and fair value distribution and has been sharpened into a razor sharp tool for platform profit and market dominance. This is because the quantity of data and transactions allow for constant 'experimentation' on the behalf of algorithm engineers, so that as well as revealing user preferences, preferences can be inferred and altered. Users, instead of participating in transactions where they are individuals with rationality and autonomy, become simply a variable in a model that can be manipulated. This is why Viljoen et al. argue that:

> …agents are increasingly coordinated through algorithmic market-like mechanisms that simulate how a market might behave without necessarily including any of the features necessary to constitute a market, such as freedom to deal or knowable information rules (Tomasetti, 2016). Instead, these market-like mechanisms are fully internalized by a single firm, and these mechanisms are characterized by information-rich, automated systems of iterative tuning. (2021)

While multi-sided platforms are market-*like*, the way that they orchestrate control over both sides of transactions and reverse engineer outcomes through algorithms means that they are not true markets. Later on in this chapter I will further discuss what the implications of this distinction between market and *market-like* entails... However, this introduction to Viljoen's et al. introduces that even basic or neutral seeming categorizations of the platform structure, 'multi-sided market', has potential for a deeper understanding of value capture mechanism by rethinking the concept of "market" as it applies to the platform economy. As well, Viljoen et al.'s arguments introduce algorithms, which play a significant role in the workings of the platform economy.

### 7.2.5 Summary

In this subsection I have shared arguments and ideas surrounding the foundation of the platform economy's function. Data—information that is recorded, stored, and processed—plays a key role for platforms because it helps to run their programs and algorithms, used for advertising, and sold to other companies. Data can be understood as a commodity, asset, and a form of capital itself and platforms are driven to collect data endlessly. As well, labor within the platform economy takes multiple forms, most notably labor performed by freelancers who find work on platforms and users who contribute to platforms for free through their engagement—prosumers. Platforms are more than just a single firm, but an ecosystem that enroll users, freelancers,

developers, and complementary firms. Lastly, though commonly understood as a multi-sided market, platforms sit in a position of both buyer and seller, as well as designing algorithms that can predict and modify behavior, so that their power stretches the bounds of a traditional market. Through this discussion of key platform features, several important concepts have been introduced. This includes the role of network effects for platform growth, the strategy of platforms being asset-light, and their logic of externalization. Regarding data, platforms can be understood to be driven by a data imperative. The labor of users can be understood as "free labor", opening up a conversation about potential exploitation and endless work. Lastly, regarding the technical tools of platforms, this section has introduced the importance of open API and algorithms.

## 7.3 Platform powers

Following a critical realist framework for understanding society, entities possess 'powers', through which they influence the world. In this section I synthesize insights from the literature by bundling concepts under various 'powers' that are possible through the coordination between data, labor, and platform structure. In other words, what are platforms able to achieve and how they can influence society. The powers of platforms I identified are intermediation, control, enrollment, and expansion.

### 7.3.1 Intermediation

Intermediation refers to the position of platforms as mediator between users, services, and providers—essentially the connectivity seen through the platform structure as a multi-sided, or as the central node in an ecosystem. In their paper focusing on the role of platform intermediation, Langley & Leyshon write that:

> platform intermediation combines three distinct operational "layers" which will vary in "thickness" and importance according to market context and competitive strategy. These layers are: first, a network or community layer, which consists of platform participants and the relationships between them; second, an infrastructure layer, which is made up of software tools, rules and services; and third, a data layer, which allows the platform to attempt to match supply with demand. (2017)

These three layers echo the elements identified in the section above—users, data, and structure—which work together to give platforms their position to control flows or resources, information, and capital.

It is important to consider the implication of platform intermediation because of the way that platforms can shape access to services, leverage their position to shape outcomes, or set the rules of engagement for ecosystem members. A popular view is that platforms are gatekeepers, which encompasses two different dynamics within intermediation. The first is the way that platforms influence what content they engage with, and the second is the way that platforms manage their control over data.

As a gatekeeper, the platform actively coordinates activity on their site. A platform does more than provide the technology for connectivity, but sets the rules for what kind of interactions are possible through their technical infrastructure and user agreements (Dolota, 2019). As well as having the setting the rules of engagement through agreements and the code of the site, platforms are also able to encourage certain types of interactions or curate specific connections. This is why Benghozi and Paris call the pervasiveness of platform intermediation an "economy of prescribers", because of the active role platforms have as a third part mediating between producers and consumers (2016). Some examples of this include personalized recommendations on a streaming platform, or how Google decides which results should appear first in a search; a platform can decide  very easily what content is accessed and what is not. Due to their position as a gatekeeper, platforms are able to set up the most favorable conditions for their own firm, whether that is increasing data collection or fetching higher returns on advertising.

While platforms are able to direct users through techniques like targeted advertising, the reason they can employ these tactics so well is because of their ability to control data through a process called "digital enclosure", in which platforms can be understood as "rentiers". Data enclosure refers to the way that platforms are able to collect data by making it a requirement of participation on their platform, and then fencing off this data for their own purposes. In their case study of data processes in the online music industry, Meier and Manzerolle argue that digital enclosure "facilitates rent-based monetization" (2019). Rent is a result of monopoly power, where control over supply of a good allows the provider to name their price. In this case,

platforms are able to collect data, privatize it, and commercialize it by using it to sell spots to advertisers. Meier and Manzerolle explain, with the help of Rigi and Prey (2015), that:

> User data 'must be fenced in and kept artificially scarce in order to justify their price' (Rigi and Prey, 2015: 398). Within social media and platform-based sectors, the 'networking   activities of audiences, the intensity of these activities, and the influences and affective   relations that they produce' are enclosed within the platform, and rent is extracted from   advertisers 'in exchange for the lease of (virtual) space' (Rigi and Prey, 2015: 397)" (Meier & Manzerolle, 2019).

The view of platforms as a 'rentier' appears through the literature, and this concept emphasizes the control that platforms have over resources that allows for practices of privatization and commercialization. The term 'rentier' helps to update a term with historical connotation to the digital age, where instead of control over physical land, a rentier has control over digital space. This is congruent with the perspective that examines the platform economy as a continuation of history. Barns writes:

> The notion of platform capitalism sees the global growth of digital platforms as an acceleration of historical conditions of capital accumulation. Here, platform intermediation takes place through processes of data commodification, and platform providers like Amazon, Google, and Uber are conceived as essentially owning the means of production in an information society, whose actions resemble those of network rentiers, akin to  those who dominated the gilded age. (2019)

Therefore, to understand platforms as gatekeepers, it is to understand that platforms are *owners* of digital space, where platforms have just as much power to mediate and monetize the interactions of that space as any other private property, if not more. It is this comparison of digital space to private property and digital rents that have led some scholars to name this era of platforms 'techno-feudalism' (Likavčan & Scholz-Wäckerle, 2022)

### 7.3.2 Control

Platform intermediation means that platforms have a great amount of control—control over their ecosystem partners, control over workers enrolled in their platform, and control over their users. In this subsection I will focus first on concepts that relate to control in overall platform operations and then turn to the way that platforms enact control over individuals.

In their paper, Howson et al. build on global value chain and global production network (GVC/GPN) theories to examine the economic geography of global platforms (2022). In doing so, they present the notion of a 'digital value network' (DVN), which they define as "a digitally mediated nexus of platform operations that produce and distribute value between territories, on the basis of labour transactions" (Howson et al., 2022). The authors find that digital technologies allow for a dichotomy of 'embeddedness' and 'disembeddedness'. This refers to the fact that digital technologies allow platform corporations to develop far-reaching operations, embedding themselves into labor markets and sectors, while being simultaneously *disembedded* in terms of regulatory responsibility through evading local labor laws or tax regimes.

In the digital value network, platforms are able to hire, fire, and manage employees at a distance, and the same digital mediation that gives them control over their workforce also provides separation from the consideration of local conditions. This is a dynamic of what Yeung and Coe call the 'cost-capability ratio' (2015, within Howson et al., 2022), which refers to a governance logic that seeks to reduce and outsource costs as much as possible, while at the same time "maintaining control over production activities, including 'labour, technology, know-how, and capital'" (Howson et al., 2022).  The result is that platforms are extremely efficient at generating value, avoiding costs, and establishing market power.

While 'cost-compatibility ratio' refers to the way that platforms maintain control as a general principle, other concepts from the literature focus on *specific* ways that platforms modify users or worker behavior in order to generate value. In particular, Gregory and Sadowski's (2020) research with app-based food delivery workers exemplifies the kind of labor force management from afar discussed earlier. Through qualitative interviews, Gregory and Sadowski discover food delivery workers develop a set of 'virtues', such as being physically fit and keeping a flexible schedule, in order to perform better in their jobs. These virtues are taught by way of scores, which the platform gives the workers based on their performance and availability, and that determine the quantity and quality of work they can receive in the future. For this reason Gregory and Sadowski conceptualize the platform as 'biopolitical', in reference to Foucault's concept of 'biopower', in this case referring to the way that the physical body becomes entwined into accumulation processes. Gregory and Sadowski write:

The biopolitical platform, thus, governs human life by coordinating the performance of, and extracting the value from, its vital productive energy. The platform pulls the body into its algorithmic practices, simultaneously measuring its development, managing its processes, and feeding off its data outputs. (2020)

As well as workers, platforms exact control over users, too; in particular the way that platforms turn users into 'workers' of digital labor through the data they provide. As discussed in the way that platforms are gatekeepers, platforms are able to set the rules of what kind of interaction can take place on their sites. One example of these rules is 'terms and conditions' agreements, which accepting is a common entry requirement, and is what allows platforms to gather huge amounts of data from their users. However, it is argued that the way that these agreements are non-negotiable, as well as nearly impossible to be read through, means that agreeing to the terms can hardly be considered consensual (Sadowski, 2019). Therefore, the pressure users face to accept 'terms and conditions' is a function of the control platforms have, and at the same time, accepting these conditions create further opportunity for platform control.

The reason that data creates opportunity for control is because data is used to fuel algorithms that can direct users attention and shape their decision making. This is reflected in the concept "surveillance capitalism" by Shoshana Zuboff, which "refer to the aim of corporations 'to predict and modify human behavior as a means to produce revenue and market control'" (2015, within Clarke, 2019). Platforms are able to collect enough data about a person to aggregate a "digital persona", in other words, a data profile, which can be used to create a customized experience for users on the platform (Clarke, 2019). This customized experience, however, is set up in order to direct a user's movements to a specific goal set out by the platform—whether that is engagement with certain content, purchasing an advertised product, or simply just sharing more data (Mansell & Steinmueller, 2022; Clarke, 2019; Viljoen et al., 2021).

### 7.3.3 Enrollment

Another power of platforms, which was alluded to in the way that platforms exert control over users and workers, is the way that platforms are able to enroll users into working for the

platform, either in the form of users performing unpaid labor, or workers internalizing the demands of the platform. There are a few concepts from the literature that speak to this process of enrollment, referring to how users are compelled to provide free work for platforms, give away free intellectual property, or willingly take up the project of converting their lives into data.

In Fourcade & Kluttz's 2020 article they focus on how the internet fosters reciprocal relations, and in doing so, taps into the psychology of gifting that where something gained means something owed. This often looks like users gaining access to a platform for "free", and then in return users do their part to contribute to the platform. This exchange preys on the user's feelings of solidarity with other users or feelings of reciprocal obligations, and this obscures the value of the labor users are giving for free. Fourcade and Kluttz explain:

> …providing  content (as in Wikipedia), commenting, rating, etc. all  of which often (not always) serve to power the development of advertising services, predictive analytics, and, increasingly, artificial intelligence systems. Tag  your own photos, and Apple makes giant steps in  facial recognition. Correct the translation, or identify  objects in the CAPTCHAs, and you help Google develop automated translation or improve computer-vision  systems. (2020)

This kind of contribution, everyone "doing their part to fix the machine", is what Ekbia & Nardi call 'heteromated labor' (2017, within Fourcade & Kluttz 2020), which is the microwork done by users without compensation.

As well as heteromated labor, platforms are able to benefit from free labor through turning users into 'entrepreneurs', which is the rhetoric of flexible working arrangements presented on platforms. This can be seen in the earlier example from Gregory & Sadowski (2020), where workers internalize the values of productivity and shape themselves to perform better, to the end result of creating value for the platform firm. This corresponds with Foucault's idea of "entrepreneurs of themselves", where the subject's self-worth becomes tied to what neoliberal values of productivity and property (Ettlinger, 2017).

Another way that platforms are able to enroll free labor is by leveraging the power imbalance between the platforms and freelancers. This includes offering developers exclusive access to software tools in free feedback and data, as well as the strategies of competitions, where user generated content is exchanged for the promise of potential reputation gains (Ettlinger, 2017). In their qualitative research with freelancers who work on platforms, Ettlinger found that users

actively choose to participate in work that they know is not financially lucrative, but do so anyway because it could improve their ratings or their profile (2017). Some scholars call this the 'passion trap', where immaterial rewards compel workers to accept insufficient monetary compensation. The platform creates an environment that triggers the passion trap, compelling users through non-monetary incentives like ratings, free software, rhetoric of collaboration, and competitions in order to enroll free labor.

Lastly, the enrollment of users into providing data for platforms can be seen in the gamification of personal data collection, popularized by wellness apps and wearable technology that track the human body. For example, sleep tracking apps, food diaries, and smart watches. The popularity of these kinds of devices and personal tracking has led to what Lupton calls the 'quantified self', which speaks to the way that people increasingly know themselves through the lens of data. This works to encourage and normalize data collection, providing financially valuable data to the platforms that facilitate the quantified self. (Lupton, 2016, within Clarke, 2019).

### 7.3.4 Expansion

The last power that is again and again in the literature is the way that platforms are able to rapidly and efficiently upscale their businesses, expand into new sectors, and eventually solidify their position in the market to the point of monopoly power. This section discusses the characteristics and strategies that facilitate expansion, such as the way platforms remain 'asset-light' allowing for upscaling with little costs, while harnessing network effects that grow their user base. As well, the data platforms collect allow continuous improvement of their product, making it difficult for adjacent platforms to compete, so that users find themselves 'locked in' to the platform. In addition, platforms operate highly competitively, and corner markets by acquiring competitors and seeking out markets where they can establish themselves first.

There are two many ways that platforms are able to expand, either in terms of scope of services, number of users, or their geographic reach. In the case of expanding services and users, platforms rely heavily on network effects, in which the more users a platform has, the more capable they are at attracting users. This can be because of the contributions that users make to

the platform in terms of content, or because of the improvements that platforms are able to make based on the data they collect from early users. As well, users attract developers and complementary services, so platforms can easily expand the scope of their platforms through open API. An example of this could be the way that web browsers allow for external extensions. In Zeng et al.'s case study of platform up-scaling practices, they give these stages names as "mining", "diversifying", and "fertilizing"—where mining refers to the input collected from user data, diversifying refers to attracting complementors, and fertilizing refers to formalizing and supporting the innovation of external complementors (2022).

In terms of expanding geographically, this is often possible through backing of venture capital, which allows platforms an opportunity to temporarily operate at a loss while securing their market position (Howson et al., 2022). As well, platforms often have very little expenditures in physical infrastructure, which reduces the investment required for expansion. For example, when Uber opens operations in a new area they do not need to buy any cars—they just need to market to potential drivers and riders (Howson et al., 2022).

As well as scaling their platforms, platforms strengthen the hold they already have over their market position, in some cases reaching monopoly levels of power. This is because the platforms aim to 'lock in' their users, referring to the way that users become reliant on their platform. The user data provided in the start-up stages of a platform helps the platform to tailor their product to user needs, which in turn increases the number of users, and the cycle continues (Zeng et al., 2022). Barns explains:

> Data is also used to support continual enhancements to the functionality of the platform for its  users, which in turn reinforces lock-in over time. Through this logic, platforms are able to leverage the network effects generated by their active ecosystems into unique data holdings they govern in absolute terms. (2019)

By 'leverage the network effects', Barns is referring to how the more users a platform has, the better their capacity to scale, and the more data they can collect, which provides value to the firm.

This drives platforms to broaden their reach in a network as much as possible. As well, because a platform's position is largely based on their users which does not scale linearly, platforms follow a surprisingly anti-competitive logic. The playing field between platforms is typically stacked

heavily in favor of the incumbent platform, making it difficult for newcomers to compete. As well, platforms often buy out their competitors. This is a "winner-takes-all" logic that leads to a small number of platforms controlling huge areas of digital space.

Dolota (2019) explains the way that large platform firms dominate the market, saying that "The leading Internet companies today have extraordinary and difference-generating financial power that enables them to invest far more than their potential competitors", investing into infrastructure (e.i. data storage systems), algorithms, vertical integration, and new service offerings. This 'difference-generating financial power' explains the existence of huge tech conglomerates like Amazon, Microsoft, and Google.

As incumbent firms are at a huge advantage competing against newcomers, this is also what motivates firms to expand geographically. The way that geographic expansion opens up a new pool of data for firms, and the way that platform firms trigger lock-in effects, this expansion has been conceptualized as 'data colonialism' (Thatcher, 2016, within Sadowski, 2019). Writing on the way that platforms are motivated to find new data sources, Sadowski explains:

> This could mean subjecting previously noncommodified and non-monetised parts of life to the logic of capitalism or colonising new territories so they are brought into the global capitalist web as sites of extraction (...) These new places with new people provide new opportunities for data accumulation. The same imperialist tactics are being replayed now, but updated for the digital age. (2019)

To summarize, platforms are able to use network effects to scale non-linearly, often by the fact that they have little costs in physical assets and aided by venture capital to support their expansion, which solidify their market position. By tailoring their products based on user data, platforms aim to lock-in users, creating a cycle of increasing user numbers. The advantages enjoyed by incumbent platforms make it challenging for newcomers to compete, resulting in anti-competitive behaviors and market dominance. When these practices are applied to potential new markets globally, this expansion draws comparison to historical forms of colonialism.


## 7.4 Stabilization

In the previous subsection, I discussed the powers of the platform and how they relate to their ability to extract value. However these powers —intermediation, control, enrollment, and

expansion—speak not only to their ability to generate value, but also their ability to establish themselves in a place of leverage over a market or over users. This is because platforms not only work through economic channels, but through extra-economic means to gain acceptance for their position of power and their practices. In this section I present some of the concepts in the literature that address the way that platforms operate culturally, socially, and politically in order to shape the socio-economic climate in favor of their operations. In doing so, this section aims to answer the question: *How does the platform economy stabilize itself?*

### 7.4.1 Cultural & Social Practices

In previous sections I discussed the ways that platforms are able to extract huge amounts of data from users and benefit from the labor of freelancers in precarious financial positions, and though the previous sections explained the mechanisms of how platforms gain value from their users, there is another issue of how their practices are socially acceptable. Largely, this is a result of the rhetoric around innovation that emphasizes the potential of social good and downplays social harms, the way that data sharing has become a social practice, and the way that data collection has become 'naturalized' or seen as inevitable.

In their article, Mansell and Steinmueller emphasize the influence of neoclassical economics in preventing regulatory reform of platform corporations. They argue that platforms practices are exploitative because of their intermediation power, however, any attention toward platforms is distorted through a lens that inherently sees innovation as good. They illustrate this point in the following quote:

> Large firms can finance research and development, attract skilled workers, and innovate with the specific aim of influencing preferences and nudging behavior. Rather than being a threat of anticompetitive behavior, the contribution of these developments to market concentration is interpreted as further evidence of the need for large-scale operations to harness the opportunities for improved efficiency. If supranormal profits are achieved in this process, they are called innovative rents, and justified as a necessary invention to fuel innovation. (2022)

In this quote they reference many of the powers we have seen through concepts so far, such as the ability to control markets through difference-generating financial power, the ability to control users through design mechanisms, and the way that platforms collect rents. All of these practices,

Mansell and Steinmueller claim, are able to continue without intervention because of the way that innovation is valued by society and law makers over any other objective.

Platforms do not benefit from the view of society passively, they actively shape the language that is associated with their operations, whether that be 'innovation', 'sharing', or 'collaboration. In their article, Fourcade and Kluttz focus on the discursive strategies platforms use to encourage users to share their data and labor. They argue it begins with the language that platforms use to describe themselves, such as phrases like "open" and "sharing" which creates imagery of transparency and community. It is through this language that platforms foster feelings of solidarity between themselves and users (2020). As well, platforms rely on what Fourcade and Kluttz call 'accumulation by gift', which hinges on reciprocity to entice willing participation in the platform network. They give the example of a Facebook friend sharing a digital invite—though the interaction is digital it triggers the psychology of gifting that makes the receiver feel obligated to accept the invitation, or to otherwise continue the exchange. Within their theory of 'accumulation by gift', Fourcade and Kluttz emphasize how the interaction hides the true value of what users offer—data—and so the cycles of reciprocity can continue endlessly (2020).

The way that users enroll other users into platforms data extraction can also be seen in the concept "performity of circulation", which describes the way that users attach themselves to digital practices, and "perform" these practices. An example of this could be having an active social media profile, which incidentally influences the others to be active on social media. Barns uses this concept to talk about the way that platform dynamics as well infiltrate physical space, such as the abundance of digital displays and smart devices in a city. Barns writes about how while practiced by users, 'performity of circulation' originates with the platforms themselves. She say, "This performativity is not incidental: platforms continually reinforce the intentional interdependencies between the personal and the algorithmic, the transactional and the cognitive, through intermediations that deliberately restructure the corporeal nature of attention just as significantly as they co-ordinate and corral the distribution of information." (2019)

The last concept that relates to the way that platform practices interact with social perception is the concept of 'surveillance realism'. The concept suggests that individuals comply with the

surveillance system of digital capitalism due to a perception of its inevitability, regardless of recognizing its flaws and injustices. The concept argues that the pervasiveness of requiring users to give away their data in order to have access to online services or content has led to a kind of resignation  or a "collective behavior of learned helplessness" (de Rivera, 2020). The concept comes as an update to Fisher's concept of "capitalism realism", which also describes "that compliance with a system is based on the perception of its inevitability" (de Rivera, 2020). As well, de Rivera stress that surveillance realism is rooted in neoliberal logics, because it "naturalizes the   idea that the winners in the economic game can dictate the rules of that game, and   takes for granted that major economic players are legitimate political actors" (2020)

### 7.4.2 Political practices

As well as platforms' ability to maintain their position of power and dominance through social legitimatization, platforms are also politically active. In this subsection I present a few concepts from the literature that underscore the way that platforms are able to rival powers of states.

In their case study of Uber's entry into Taiwan, China, and Hong Kong, Chan and Kwok develop the concepts of 'guerilla capitalism'. They define guerilla capitalism as "an operative logic through which the firm seeks rapid market growth to create network effects by exploiting  legal gray zones and contesting regulatory frameworks". This concept emerges from their finding that showed that Uber entered into their case study markets without any legal standing, and laws were placed to regulate their operations, Uber continuously would find loop-holes and toe the line of what was acceptable. The aim of this was to gain enough users in this time that when regulation would pass, it would be in their favor. This is related to the concept of 'regulatory entrepreneurship', which describe businesses that "pursue lines of business knowing that changing the legal environment is crucially important for the business's growth, or even its legality, with the intention of effecting that change" (Chan & Kwok, 2021). In their case studies, the authors found that Uber not only hoped to affect the regulation of their businesses by establishing themselves first, but they actively campaigned to gain user and drivers, in Taiwan even organizing a protest to "#standbyU" and saying that to regulate Uber would be anti-democratic (Chan & Kwok, 2021)

In addition to pursuing legally contested lines of business, platforms gain political power because of societies growing reliance on their services. In his article Curran compares the level of power platforms have to that of the financial sector, and argues that there is huge 'systemic risk' if the right platform were to crash. He writes that:

> As with contemporary finance, these digital giants seek to exhibit universal intermediary power. Insofar as they are necessary conditions to key functionings of our life, they exhibit a kind of dual power, that enables them to appropriate massive levels of economic rents due to their monopolistic position (Mazzucato, 2018), while also creating immense risks for society when they fail to successfully fulfil their roles – thus making it a core social interest that they not fail in their function. (Curran 2020)

What Curran is saying is that, like how it is with major financial corporations, platforms gain levels of scale to the point that they are 'too big to fail', and if a platform achieves this level of 'universal intermediary power', that they have leverage over governments because of political interest in the continued operation of the platform.

# 8. Discussion

This research presents a novel approach that applies literature review methods to the review of conceptualizing theory in order to synthesize the growing number of concepts surrounding platform economy practices to capture value. In this section I aim to address my methodological research question: *How can the literature review be applied as a method for a systematic review of conceptual theory?*

Applying systematic approaches to qualitative and non-empirical content presented challenges in terms of evaluating the material, however, after developing a project-specific criteria, it was possible to approach the review systematically. That being said, while I found that a systematic review of conceptual theory is more or less possible, it is not the most effective or practical method for a review.

Being systematic meant using a database search and no other methods to find articles in order to remove bias or cherry picking. However, when the target literature is such a small proportion of the literature, a database search means significant time investment to review irrelevant articles. A

more effective sampling strategy would be purposeful sampling, which though presents potential for bias, would allow for a more focused picture of the state of research. By using database search, the result was essentially a cross section of the literature, which has its pros and cons. This strategy allows for the inclusion of literature that may not be found through purposeful sampling, for example, articles that have fewer citations or were published very recently. At the same time, there were many articles relevant that did not show up in my database search, highlighting the challenge of designing a 'goldilocks' search that is sufficiently specific and broad. A solution could be to employ a combination of purposeful sampling along with a database search, which could uncover less known works while also those that are most influential.

Though I found systematic searching not be the best fit for this kind of research, other methods in this review proved to be incredibly useful. In particular, the strategy of coding concepts 'in vivo' was efficient and comprehensive for recording concepts and measuring impact. By creating a unique code for every concept, the coding software was able to generate a list of all concepts found in their literature, their appearance across articles, and their associated usage. I generated this coding strategy in pursuit of combining the systematic with conceptual, and it could be valuable to other research where it is important to capture specificities of language.

 Reflecting on this research and how it attempts to bring a systematic approach to the review of concepts, I am reminded of the discussion surrounding theory, and what theory is and is not. In response to an article that delineates what does not count as theory, Weick writes "what theory is *not*, theorizing *is*", and by this he means that an attempt to create an account of the world, regardless of what it achieves, constitutes a valuable process of theorizing (CITE). With this in mind, while this research does not propose original concepts, nor a decisive framework for the systematic review of concepts, it takes action to further theory development. Theory is an open ended process, so while this work is not theory itself, it is theorizing, and per the sentiment of Weick, "theorizing is".

## 9. Conclusion

This thesis has undertaken a standalone literature review aimed at synthesizing existing research and theories on the structures of value creation and capture in the platform economy. As the platform economy continues to shape various aspects of daily life, it is critical that there are scholarly works that keep up with the growing literature to orienting scholars new to the topic. While previous reviews have explored different aspects of the platform economy, such as definitions and research agendas, there are few standalone literature reviews that focus on synthesizing theoretical approaches. Therefore, this research fills an important gap by focusing on conceptual contributions. As well, by focusing on value capture and creation, the concepts found in this review have a wide range of applications.

The findings of this literature review highlight the central components of the platform economy: data, labor, and its underlying structure. These elements interact to empower platforms with capabilities such as intermediation, control, enrollment, and expansion. As well, the concepts in the literature bring attention to how platforms are socially and politically active, and through the concept of regulation within the regulation approach, can be understood as how the platform stabilizes its position and gains acceptance for their accumulation practices.

Throughout the paper, the systematic literature review methodology employed ensures rigor and comprehensiveness in the analysis of theoretical works. By addressing the research question and sub-questions, this study has synthesized key concepts, themes, and influences from the literature, offering a conceptual roadmap for understanding the platform economy. Furthermore, the discussion of the research philosophy and framework, as well as the reflection on the methodological approach, provides valuable insights into the application of systematic methods to review theoretical content. This contributes to the ongoing scholarly discourse on theory building and offers potential avenues for future methodological exploration.

In conclusion, this paper's findings contribute to the existing body of knowledge on the platform economy through emphasis on concepts to understand the root of value generation and social influence. Its findings present a resource to researchers who are entering a rapidly growing body of literature. As well, by combining traditionally quantitative methods with qualitative techniques, this work strives to apply rigor to treatment of theory, based in the belief that social

phenomena requires attention to concepts, and understanding social phenomena is the first step toward enacting social change.

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# Appendix A: Database Search

**Database: Web Of Science**

Search date: 19.10.22

Custom search string:

TS=((("digital" OR "platform*") NEAR/1 ("capitalism" OR "economy" or "economies" OR "sharing" OR "collaborative consumption" OR "gig" OR "market*" OR "crowdsourcing")) AND (("Model" or "structure" Or "logic" or "foundation" or "mechanism" or "process" or "system") NEAR/5 ("business" OR "financial" OR "economic" OR "earning" OR "revenue") OR (("extract*" OR "circula*" OR "intermedi*" OR "mediat*" OR "creat*" OR "accumula*" OR "driv*" OR "captur*" OR "flow*") NEAR/1 ("value" OR "rent*" OR "capital" OR "fund*" OR "asset*" OR "profit*"))))

**Search filters**

Publication year: 2014-2022

Language: English

Subject: See table below

Document type: Article

**Results: 556**

| | Business and Management | Finance and Economics | Social studies |
|---|---|---|---|
| **Included subject filters, sorted by discipling** | • Business<br>• Management | • Economics<br>• Business Finance | • Geography<br>• Sociology<br>• International Relations<br>• Political Science<br>• Social Issues<br>• Cultural Studies<br>• Anthropology |
| | **Technology Studies** | **Multidisciplinary** | **Other** |
| | • Computer Science Information Systems<br>• Green Sustainable Science Technology<br>• Computer Science Interdisciplinary Applications<br>• Telecommunications | • Social science interdisciplinary<br>• Public administration<br>• Area Studies<br>• Multidisciplinary sciences<br>• Development studies | • Law<br>• Communication<br>• Regional urban planning<br>• Urban studies |

**Database: Scopus**

Search date: 19.10.22

Custom search string:

TITLE-ABS-KEY (((“digital” OR “platform*”) W/1 (“capitalism” OR “economy“ or “economies” OR “sharing” OR “collaborative consumption” OR “gig” OR “market*” OR “crowdsourcing”))  AND ((“Model” or “structure” Or “logic” or “foundation” or “mechanism” or “process” or “system”) W/5 (“business” OR “financial” OR “economic” OR “earning” OR “revenue”) OR ((“extract*” OR “circula*” OR “intermedi*” OR “mediat*” OR “creat*” OR “accumula*” OR “driv*” OR “captur*” OR “flow*”) W/1 (“value” OR “rent*” OR “capital” OR “fund*” OR “asset*” OR “profit*”))))

<u>**Search filters:**</u>

Publication year: 2014-2022

Language: English

Subject:

- Business, Management and Accounting
- Economics, Econometrics and Finance
- Social Sciences
- Computer Science
- Multidisciplinary

Document type: Article

Custom search string, with the filters:

TITLE-ABS KEY ( ( ( "digital" OR "platform*" ) W/1 ( "capitalism" OR "economy" OR "economies" OR "sharing" OR "collaborative consumption" OR "gig" OR "market*" OR "crowdsourcing" ) ) AND ( ( "Model" OR "structure" OR "logic" OR "foundation" OR "mechanism" OR "process" OR "system" ) W/5 ( "business" OR "financial" OR "economic" OR "earning" OR "revenue" ) OR ( ( "extract*" OR "circula*" OR "intermedi*" OR "mediat*" OR "creat*" OR "accumula*" OR "driv*" OR "captur*" OR "flow*" ) W/1 ( "value" OR "rent*" OR "capital" OR "fund*" OR "asset*" OR "profit*" ) ) ) ) AND ( LIMIT-TO ( PUBYEAR , 2023 ) OR LIMIT-TO ( PUBYEAR , 2022 ) OR LIMIT-TO ( PUBYEAR , 2021 ) OR LIMIT-TO ( PUBYEAR , 2020 ) OR LIMIT-TO ( PUBYEAR , 2019 ) OR LIMIT-TO ( PUBYEAR , 2018 ) OR LIMIT-TO ( PUBYEAR , 2017 ) OR LIMIT-TO ( PUBYEAR , 2016 ) OR LIMIT-TO ( PUBYEAR , 2015 ) OR LIMIT-TO ( PUBYEAR , 2014 ) ) AND ( LIMIT-TO ( SUBJAREA , "COMP" ) OR LIMIT-TO ( SUBJAREA , "ENGI" ) OR LIMIT-TO ( SUBJAREA , "BUSI" ) OR LIMIT-TO ( SUBJAREA , "SOCI" ) OR LIMIT-TO ( SUBJAREA , "ECON" ) OR LIMIT-TO ( SUBJAREA , "MULT" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) ) AND ( LIMIT-TO ( DOCTYPE , "ar" ) )

**Results: 1022**

## Database: IBSS

Search date: 19.10.22

Custom search string:

anywhere(((("digital" OR "platform*") N1 ("capitalism" OR "economy" or "economies" OR "sharing" OR "collaborative consumption" OR "gig" OR "market*" OR "crowdsourcing")) AND (("Model" or "structure" Or "logic" or "foundation" or "mechanism" or "process" or "system") N5 ("business" OR "financial" OR "economic" OR "earning" OR "revenue") OR (("extract*" OR "circula*" OR "intermedi*" OR "mediat*" OR "creat*" OR "accumula*" OR "driv*" OR "captur*" OR "flow*") N1 ("value" OR "rent*" OR "capital" OR "fund*" OR "asset*" OR "profit*")))))


Publication range: 01.01.2014 – 19.10.2022

Language: English

Document type: Scholarly journal

No subject filter

**Results: 523**

# Appendix B: Included Articles

Articles indicated with * were included in data collection and coding, which informed the themes discussed in findings, however they were not cited within the thesis.

*Azhar, S. (2021). Consumption, Capital, and Class in Digital Space: The Political Economy of Pay-per-Click Business Models. *Rethinking Marxism*, *33*(2), 196–216. https://doi.org/10.1080/08935696.2020.1750196

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Curran, D. (2020). Connecting risk: Systemic risk from finance to the digital. *Economy and Society*, *49*(2), 239–264. https://doi.org/10.1080/03085147.2020.1718912

*Dal Maso, G., Robertson, S., & Rogers, D. (2021). Cultural platform capitalism: Extracting value from cultural asymmetries in RealTech. *Social & Cultural Geography*, *22*(4), 565–580. https://doi.org/10.1080/14649365.2019.1601246

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*Koloğlugil, S. (2015). Digitizing Karl Marx: The New Political Economy of General Intellect and Immaterial Labor. *Rethinking Marxism*, *27*(1), 123–137. https://doi.org/10.1080/08935696.2014.980678

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