“Rethinking Ethics in Digital media: Effects on User Experience”

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Abstract

This paper will examine the effects new media has had on traditional ethics and the challenges of applying/designing subsequent regulation as a result of these new interpretations of social interactions. These shifts include a range of societal impacts such as, the changing nature of labor as a result of new technologies; the integration of artificial intelligence in everyday life, ethical practices of digital design objectives; the commodification of attention without user consent or awareness; and the numerous challenges facing management of data and privacy. Through the analysis of particularly the last three, this paper aims to broaden the conversation between legislation and those responsible for new technology, calling attention to the more nuanced relationships society and users have with these new advents. Subsequently using this information to minimize potentially harmful consequences of new technology.

Research Questions examined in this paper are:

1. How have traditional [experiences of] ethics changed as a result of new technology?
2. How does this affect policy, law, and regulation? The preparedness of legislators?
3. What practices can we implement have a better understanding of, and more adequately anticipate, these affects so that potentially negative impacts on social advancement can be minimized while maintaining creative expression and advancement?

Methodology: The methodology carried out in this paper focuses on three areas of new technology which demarcate significant shifts in our philosophical understanding of ethics; examining issues which have proven to be unanswerable or unresolved in terms of successful regulation, or have facilitated non-traditional approaches to regulation. These three areas were: Digital Design ethics, perception of ethical challenges from a personal user perspective, and a micro-case study of challenges to applied regulation as demonstrated by the Mark Zuckerberg hearing before the United States Senate regarding the Cambridge Analytica breach involving Facebook.

Introduction

The advent of the Internet, mobile technology, and digital media have caused as much social confusion as they have convenience. Historically, the introduction of disruptive innovations into society has produced unintended consequences that can only be assessed after their applied uses in society. These unintended consequences, unable to be foreseen before their widespread application, present a challenge for legislators when ensuring the safety of users. Take for example, the case of cars. When cars were first "invented", there were phases of regulatory measures for safety. Initially, essentially self-regulated and later following a more strict form of legal reform to ensure the safety of drivers, following the experience of unintended consequences. Despite cars having been introduced centuries ago, laws for how to safely regulate them are still being developed, as challenges continue to arise as designs and uses for cars evolve.

Perhaps the delay of applying adequate laws for new inventions, like cars, arises as a result of their novelty, sheer unawareness of their potential harm in practice, or simply resistance to the unfathomable impact they may have on society at large. Despite this, advancements continue to develop and pervade/shape the human experience and lawmakers continue to struggle.

There have been few "inventions" however, that have affected social life so dramatically as the Digital Revolution. Through the inclusion of mobile internet access, digital media platforms, augmented realities, artificial intelligence, interconnected devices, The Internet of Things, and more, we have moved into an existence where these "things" not only affect the way we interact with each other, but the way we interact with ourselves.

Such dramatic shifts in our human experience, as observed by scholars like Klaus Schwab, believe constitutes the classification of an entirely new revolution: the Fourth Industrial Revolution (Schwab 2015). The uniqueness of this particular Revolution, Schwab posits, is its spatial vastness, rapid innovation, and adoption and provides a definition of this revolution as:

> "It began at the turn of this century and builds on the digital revolution. It is characterized by a much more ubiquitous and mobile internet, by smaller and more powerful sensors that have become cheaper, and by artificial intelligence and machine learning." (7)

This working definition and the concepts associated with Schwab's Fourth Industrial Revolution will be an anchor for this paper - a term used to summarize influential technological advancements introduced in the 21st century.

As previously noted, the uniqueness of this "revolution" lies in the speed in which new technologies are developed and spread and the impact this speed has on industries to "...reconsider traditional ways of doing business to keep pace with rapidly changing technology and consumer expectations..." (Benioff in Schwab vii).

Marc Benioff also suggests these developments in technology are actually changing what it means to be human, and therefore the human experience as a whole.

With this in mind, the impacts of digital media and technology are largely reported in news and academia focusing on economics and global commercial exchanges. Even Klaus Schwab is an economist who pursued researching the deeper social influences these pieces of new technology have on individuals. However, if these impacts of technology were significant enough to justify an entirely new revolution, then it would also be worthwhile to extend these observations to other aspects of society beyond economics and business; particularly looking at our oldest institutions and governing apparatuses.

These innovations are often thought of in regards to the economic potential they have on society but the discourse surrounding the deeper structural relationships being affected as result of their interaction with society.

This paper aims to demonstrate the deeper ways technology has affected the human experience and how these effects have a greater impact on our ethics, philosophies and law/policy making capabilities; putting in perspective the time-frame in which they are developed, introduced, and applied. This paper also aims to contribute to the conversation, of searching for balance between regulation (often implemented "after-the-fact") and positive technological relationships where that regulation does not stifle creativity and progress.

Of course, in order to sufficiently cover Digital Media Law, Ethics and Society, this would require an entire academic course of its own. It should additionally be noted here that I do not have the appropriate credentials in policy or law to warrant credible solutions to the challenges presented in this paper. Therefore, I adopt solely the objective of contributing to the discourse surrounding these rapidly, changing, ideologies surrounding digital media as a whole and their influences on society. My desire here is to continue the conversation between those working in the digital sector and scholars analysing ethical challenges we face as a result of their existence, in order to extract as many anticipatory, positive, benefits of new technology as possible.

I approach these ethical challenges as separate areas. The first part of this essay contextualizes The Fourth Industrial Revolution, providing insight and background for the following questions:

1. How have traditional [experiences of] ethics changed as a result of new technology?
2. How does this affect policy, law, and regulation intitiatives? The preparedness of legislators?
3. What can we learn from all of this to have a better understanding of, and more adequately anticipate, these unintended consequences so that potentially negative experiences can be minimized? And how to do that without compromising while creative expression of designers and technological advancement?

The second part examines a less publicised ethical challenge raised by digital media: digital design ethics and the commodification of attention as proposed by Yves Citton. A subcategory within this second part addresses privacy and data. Initially it was my intention to avoid this area because it is well covered by reporters and scholars. However, due to recent developments in the news, it presents an opportunity to observe these concepts of 'the challenges of ethics' mentioned in this paper, to real life. Since this paper also hopes to explore areas where traditional regulatory measures are not sufficient enough to be used in today's technological landscape, a part of my paper will briefly examine at the United States Senate hearing involving Mark Zuckerberg in regards to the Cambridge Analytica news breach.

This particular trial illustrates the common challenges faced when trying to understand a new piece of technology. Platforms which begin self-defined and therefore self-regulated have unintended consequences on society in practice and unfortunately, as a result, legislators struggle to manage these consequences ina timely enough manner. This particular case however, demonstrates the disconnect between those in U.S. legislation and Silicon Valley, and how this lack of conversation contributes to the inability to implement appropriate measures to rectify - retroactively - damages arising through consumer use.

The fourth section, methodology, looks at primary research examined to support my proposed thesis and to learn more about two things: (1) ethical challenges of new technology and how that reflects our traditional – and global – perceptions of ethics in society and (2) how those ethical challenges have affected law and policymakers' abilities to regulate appropriately and efficiently. Due to the multifaceted nature of these questions, a triangulation method was implemented by combining survey data, with qualitative interview questions, and a brief, socio-legal contextual analysis to examine multiple areas where ethics are exemplified and handled in different ways.

These different ways include: how ethics are perceived by individuals/users, and the overall questions opinions of technology; an exploration of "hidden" or less discussed ways ethics are challenged without our awareness or consent; digital design ethics of digital devices and the ecosystems in which our attention is being commodified.

Finally, the last section of this paper, will conclude with topics discussed and proposed solutions by scholars in the field about how to go forward.

> "As I state throughout this book, the choice is ours. It entirely depends on the policy and institutional decisions we make. One has to be aware, however, that regulatory backlash could happen, thereby reasserting the power of policymakers in the process and straining the adaptive forces of a complex system." (Schwab 49)

As with any advent in society, the intention of the designer while making the artefact often changes as with the application and use of the public; changing its purpose entirely. These movements were mobilized by a concept that was not necessarily intended to take on such heavy topics. These unpredictable side effects of introduced technology are only a few examples of how much stronger a dialogue there needs to be between interdisciplinary areas of research and applied media - beyond establishing retroactive regulations.

Part 1: Ethics and The Fourth Industrial Revolution

1.1: What is the Fourth Industrial Revolution?

"The reality of disruption and the inevitability of the impact it will have on us does not mean that we are powerless in the face of it. It is our responsibility to ensure that we establish a set of common values to drive policy choices and to enact the changes that will make the fourth industrial revolution an opportunity for all." (Schwab 13)

As previously noted, there has been a significant impact on traditional ethics as a result of new media technologies. As a result of this, it is a challenge for

lawmakers and policymakers to adequately develop appropriate regulatory measures timely enough to be in parallel with the rapid effects they have on users.

I have selected Klaus Schwab's The Fourth Industrial Revolution as the most meaningful context to express the need for a deeper relationship between new media and ethics. Despite others before, such as 'Industry 4.0' at the Hannover Fair in 2011 Germany and Erik Brynjolfsson and Andrew McAffee's 'The Second Machine Age' which are equally significant,

In addition to Schwab, the Fourth Industrial Revolution has been observed by Luciano Floridi, Vinayak Dalmia and Kavi Sharma, and many others. Schwab is an economist, and also the Founder and Executive Chairman of the World Economic Forum. The World Economic Forum is described by Schwab in the Acknowledgements of his book, as the international organization for public-private cooperation to help define the challenges associated with the industrial revolution to shape appropriate solutions in a proactive and comprehensive manner, while underscoring the need for values-based narratives to succeed in the harnessing of the fourth industrial revolution for the global good. (Schwab 118). It is for this reason that the ideas developed by the World Economic Forum contributed greatly to the concepts and ideas of this paper regarding ethical challenges in a wide range of social areas.

"...the required levels of leadership and understanding of the changes underway, across all sectors, are low when contrasted with the need to rethink our economic, social and political systems to respond to the fourth industrial revolution. As a result, both at the national and global levels, the requisite institutional framework to govern the diffusion of innovation and mitigate disruption is inadequate at best, and at worst, absent altogether." (9)

The solution-driven ideologies behind the of the World Economic Forum are additionally significant, for Schwab and his colleagues believe there is an impactful way to be ahead of these 'disruptive changes' that will ensure our ability to level the playing field for all, despite a potentially disadvantageous start to this "revolution".

"As a result, the great beneficiaries of the fourth industrial revolution are the providers of intellectual or physical capital -- the innovators, the investors, and the shareholders, which explains the rising gap in wealth between those who depend on their labour and those who own capital" leading to the concentration of benefits and value in a small percentage of people dramatized by the platform effect, "...in which digitally driven organizations create networks that match buyers and sellers of a wide variety of products and services and thereby enjoy increasing returns to scale." (12)

In the 'Economy' section of his book, he illustrates this unequal distribution by citing the dramatic growth changes over the most recent decades, using statistics of the US labour productivity between 1947 and 2014 - with average labour productivity growth at 2.8 percent between 1947 and 1983, 2.6 percent between 2000 and 2007, and the dramatic drop to 1.3 from 2007 to 2014 (32). Schwab views this drop in productivity as concerning because it occurred as the 50 largest U.S. companies have "amassed cash assets of more than $1 trillion, despite real interest rates hovering around zero for almost five years." (32) Thus demonstrating one level of ethical challenges to be faced - the distribution of universal benefits from the technological advancement.

However, as mentioned at the beginning of this section, despite these difficult challenges Schwab and the World Economic Forum members, believe acknowledgement of this potentially disappointing realities, is only a primary step in creating a more balanced global experience:

"The reality of disruption and the inevitability of the impact it will have on us does not mean that we are powerless in the face of it. It is our responsibility to

ensure that we establish a set of common values to drive policy choices and to enact the changes that will make the fourth industrial revolution an opportunity for all." (13)

1.2: Defining Ethics

Although "ethics" is a multifaceted, dynamic, philosophical concept, constantly being shaped and re-shaped by the epoch in which it is being analysed, we will attempt to reduce the complexity by looking at definitions presented by Plaisance in *Media Ethics: Key Principles for Responsible Practice* (2014).

"...we can come up with a working definition of ethics as a form of inquiry concerned with the process of finding rational justifications for our actions when the values that we hold come into conflict...Philosopher Henry Sidgwick wrote that 'the aim of Ethics is to systematize and free rom error the apparent cognitions that most men have of the rightness and reasonableness of conduct' (1981, p. 77)." (Plaisance 8)

And:

"Another philosopher, R.A.P. Rogers, also offers a variation on this, calling ethics 'the science which investigates the general principles for determining the true worth of the ultimate ends of human conduct" (1965, p.1)." (Plaisance 8)

We will use a combination of these two definitions to refer to the challenges presented in this paper. Particularly the definition of finding rational justifications for our actions through inquiry and the general principles for determining the true worth of the ultimate ends of human conduct.

In Charles Ess' *Digital Media Ethics*, Ess highlights the importance of looking at ethics in the context of cultural perception. Since the Internet and mobile technology connect others instantaneously across borders and boundaries globally, it is therefore important to take the dynamic interpretations of ethical issues around the world into consideration; especially when evaluating global ethical standards challenged by these developments.

As with other biases of course, it is most common to observe social phenomena from the context of one's own experience. My experience for example, has an inclination to apply a "Western lens" to interpretations of ethics, including what constitutes as natural born rights at any stage of society, anywhere. Since these technologies however are boundless, it is of course complicated to reduce the human experience to solely the areas where technology perhaps most greatly pervades (countries considered to belong to the "Global North").

For example, Ess presents the differences of expectations of privacy around the world to demonstrate this point. Citing differences between both "Eastern" and "Western" countries as well as within "Western" countries that appear to share the same beliefs:

"These shifts can be seen most dramatically in terms of the laws surrounding privacy….privacy laws have changed so much over the past decade or so that they move, in effect, ever closer to another." (in regards to what counts as privacy in Eastern and Western Countries) (65)

And with comparing the differences in approach to privacy by the European Privacy Directives and The United States, borrowing from Dan Burk's analysis (2007:98 in Ess 65-66):

"Finally, in ethical terms...Burk characterizes the EU approach as strongly deontological: it rests upon a conviction that privacy is an inalienable right -- one that states must protect, even if at considerable economic and other sorts of costs." (66) leading to reformations such as the General Data Protection Regulation (2016/679).

Whereas, “In the United States...The default setting here is the exact opposite of the EU model: rather than asking individuals to ‘opt in’ to having their information collected, processed, and distributed in specific ways, the US approaches requires individuals to ‘opt out’ if they have reservations…” (Burk 2007:97) (66)

There are also a number of ways ethics may be approached, the most common being ethical absolutism or ethical monism which categorizes different ethical opinions as ‘right’ or ‘wrong’ which may be understandably effective or appropriate in certain contexts, but certainly in a global context - like the one we are observing - selecting either one of these approaches are extremely limiting, as it (Ess 25).

Another option is ethical relativism, which “...argues that beliefs, norms, practices, frameworks, etc., are legitimate solely in relation to a specific culture; in this way, ethical relativism allows us to avoid the intolerance of ethical monism and to accept all views as legitimate.” (Ess 26)

Therefore, despite my attempt to reduce such broad concepts regarding the definition of ethics, it is important to consider the limitations noted above. In this essay however, I will take an ethically pluralistic perspective. Particularly in the context of American regulation, with consideration of European Union models for regulation as well as the United Kingdom. Ethical pluralism is what Ess considers a ‘middle ground’ between these spectrums, showing “...how different views may emerge as diverse interpretations or applications of shared norms, beliefs, practices, etc.” (Ess 26)

And furthermore, as we rethink the ideas surrounding ethics in this technological climate we will need to embrace entirely different codes of conduct altogether eventually.

“As we embrace this machine age, there is an urgent need to shape a new paradigm of ethics which will govern our social and economic order...Humans will be compelled to think about new ethical scenarios -- for which answers will be needed and laws be made. In some cases the entire moral code may need to be rebooted. Such is the nature of technological breakthroughs. We believe that humanity will soon be on the cusp of re-thinking about Morals - an Ethics 2.0” (Dalmia and Sharma 2017, medianama).

1.3 Challenges to reassessing traditional ethics in the Fourth Industrial Revolution

Ess divides the social perception of ethical challenges into two polarities: “technology good” and “technology bad” (Ess 8). This idea is centralized around the way we discuss new technology colloquially and how often times that can be detrimental to producing more critical and constructive thought. Turning the conversation into two reductionist binaries of: “Technology good” when it brings us important benefits and “technology bad” when it threatens the moral foundations of society, most especially the morality of young people (ibid).

As mentioned in this paper earlier, reporting of digital media advancements plays a significant role in shaping our experience of ethical dilemmas. Ess posits the influence reporting on digital media issues has on the way we shape our perception of these technologies. These reports, which are often times sensationalized to get our attention, possibly contribute to our misleading interpretations of potential ethical issues (ibid). One way Ess believes we can move past these polarities is to examine more carefully important characteristics of digital media along with the specific ethical issues that these characteristics raise for us (ibid).

"On the one hand, this a Very Good Thing, as it may point towards important ethical norms and practices that can be shared among the multiple cultures and peoples now brought into communication with one another through the Internet and the Web. But, on the other hand, it represents a major challenge especially to Western thinkers used to understanding ethical responsibility in primarily individualistic terms." (Ess 22)

In his section titled 'Is digital media ethics *possible?* Grounds for hope' Ess "...a view towards incorporating a range of global perspectives and changing notions of selfhood and responsibility…" (22) He does believe it is achievable to some degree, taking ethical assessments into consideration on a global level as well as a local level. For example, in 2000, the Association of Internet Researchers (AoIR) began a two-year project to develop ethical guidelines for Internet Researchers after the widespread access to the Internet caused ethical concerns regarding acquiring information for research purposes - facing ethical issues more familiar to those in medical research and social sciences (Ess 23).

The Association of Internet Researchers demonstrates a potential area of opportunity for what to use as a reference point for solving the more difficult questions raised by new technology. Although, the long reiterative process of the AoIR also emphasizes the issues we continue to face regarding pace of regulation and minimized unintended consequences.

1.4 Ethics and the Fourth Industrial Revolution

The Fourth Industrial Revolution has posed a number of moral concerns regarding new developments in technology. In nearly every sector, Schwab divides his posited impacts into the following: economy, business, national and global [impact], the individual, and society. For the purposes of this paper, we will examine in more detail, the individual, society and elements of economic and business impacts on the human experience.

1.4.1 Ethical Impacts in Fourth Industrial Revolution

This section aims to describe and analyse the potential impact of the fourth industrial revolution on aspects of society mentioned above (the economy, business, governments and countries, society and individuals). Adopting Schwab's position, in relation to this paper that considering these elements are essential:

"In all these areas, one of the biggest impacts will likely result from a single force: empowerment -- how governments relate to their citizens; how enterprises relate to their employees, shareholders and customers; or how superpowers relate to smaller countries...The disruption that the fourth industrial revolution will have...will require that empowered actors recognize that they are part of a distributed power system that requires more collaborative forms of interaction to succeed." (Schwab 28)

Because part of this paper is to not only examine the ethical challenges presented by new technology but also to open or contribute to a dialogue between policy and law makers regarding the regulations of these technology, part of this examination will look at how other contributions of academic literature feel about this relationship and the responsibility these legislative powers have in how society members can best relate to this era.

Society

The various elements of society Schwab believes what poses the biggest challenge for how societies can best absorb and accommodate modernity while maintaining traditional value systems. This is because, he claims, the fourth industrial

revolution in fact tests many of our fundamental assumptions, with many who are devoted to their fundamental beliefs are torn between embracing new advancements facilitating their lives. (Schwab 91)

"In all moments of major technological change, people, companies, and institutions feel the depth of the change, but they are often overwhelmed by it, out of sheer ignorance of its effects." (Castells in Schwab 91)

Schwab concludes this chapter by looking at what he calls the "(dis)empowered citizen" which describes the dynamic interplay of two trends where individuals feel empowered by changes that make it easier for them to perform daily tasks in their lives such as gathering information, communicating, and participating in civic life but are also feeling increasingly excluded from meaningful participation in traditional decision-making processes, and feeling disempowered in terms of their ability to influence and be heard by dominant institutions of national and regional governance. (Schwab 96).

This paradox of feeling both appreciative and burdened perhaps coins the true ethical challenges of the human experience when integrating new technology into every day life to the degree that we have. The issues arise on a deeper level when we feel like our natural emotions and impulses are being compromised or even manipulated by something outside of our control. Social inclusion and participation is both a characteristic of new technology, as well as a consequence.

The Individual

"The fourth industrial revolution is not only changing what we do but also who we are. The impact it will have on us as individuals is manifold, affecting our identity and its many related facets - our sense of privacy, our notions of ownership, our consumption patterns, the time we devote to work and leisure, how we develop our careers, cultivate our skills. It will influence how we meet people and nurture relationships, the hierarchies upon which we depend our health, and maybe sooner than we think, it could lead to forms of human augmentation that cause us to question the very nature of human existence. Such changes elicit excitement and fear as we move at unprecedented speed." (Schwab 97)

As an extension of the social section above, the perception of self is a significant factor in how we experience the world around us and therefore the benefits and disadvantages we interpret as a result of our experiences. Because our perceptions of self are so specific to our individual experiences, particularly in Western cultures which have an individualist value system, major areas of technology present challenges because although universal tools, the universality of their moral usages are not always so easily applied.

"The human impact of some particular technologies such as the internet or smartphones is relatively well understood and widely debated among experts and academics. Other impacts are so much harder to grasp. Such is the case with AI or synthetic biology." (Schwab 99)

It becomes a matter of individual interpretation when analysing the true benefits and true consequences of pieces of technology that appear harmless to many but become unethical when the hidden motives are revealed. We will explore this in more detail in Part 2.

Science and biotechnology

"It is in the biological domain where I see the greatest challenges for the development of both social norms and appropriate regulation. We are confronted with new questions around what it means to be human, what data and information about our bodies and health can or should be shared with others, and what rights

and responsibilities we have when it comes to changing the very genetic code of future generations." (Schwab 23**)**

Biology, genetics, health and biotechnology in general are arguably one of the most discussed areas when examining ethics and technology. The debate for morality and authenticity of life quickly arises as soon as the topic is mentioned. Because this is too a vast subject, this paper will only summarize this area for context, rather than attempting to condense so many positions into one study.

"We are developing new ways to embed and employ devices that monitor our activity levels and blood chemistry and how all of this links to well-being, mental health and productivity at home and at work. We are also learning far more about how the human brain functions and we are seeing exciting developments in the field of neurotechnology. This is underscored by the fact that over the past few years - two of the most funded research programs in the world are in brain sciences." (Schwab 23)

"It is in the biological domain where I see the greatest challenges for the development of both social norms and appropriate regulation. We are confronted with new questions around what it means to be human, what data and information about our bodies and health can or should be shared with others, and what rights and responsibilities we have when it comes to changing the very genetic code of future generations." (Schwab 23)

However, going beyond these commonly discussed areas of contention, is imperative to ensure positive application of new technology. Of course it is the devices themselves that require deep observation of ethical design, but it is also the motivations behind their design which require a further look. As I will discuss in Part 2, ethical design decisions made as a result of pushing or promoting a capitalist agenda or an agenda to increase business at the expense of human psychological weaknesses, our changes in behavior as a result of engaging with these devices daily also deserves to be understood.

1.4.2 "The Moral Dilemmas of the Fourth industrial Revolution"

Regarding ethics, the mention of "morals" inevitably comes up when discussing ethics or ethical issues. An article found on the World Economic Forum website, Weforum.org, titled "Ethics 2.0 How the Brave new World Needs A Moral Compass" by Vinayak Dalmia and Kavi Sharma, Dalmia and Sharma open with the claim that our traditional ethics, "derived from philosophy or religion do not easily fit into the world of technology" thus calling for, "a coherent global dialogue around ethics in the 21st century" (Dalmia and Sharma 2017).

This dialogue, they believe, needs to go beyond academic discourse to include official institutions including the UN, citing the different approaches to managing these societal impacts of new technologies as "markedly different from that of the US" (ibid).

"Traditionally, technology progress outpaces the political process: we already missed drafting the moral charter for the internet, and continue to play catch up till this day." (ibid)

"Should your driverless car value your life over a pedestrian's? Should your Fitbit activity be used against you in a court case? Should we allow drones to become the new paparazzi? Can one patent a human gene?" Claiming that these questions inspired by new technology, have never before experienced in society, and therefore require a "new set of codified morals" as they challenge our traditional views on ethics, ethical behaviour and expectations of experiencing ethical designs. (ibid)

These particular questions are additionally interesting to consider because they examine the effects new technologies have on the human experience, rather than how they should be governed from an economic or manufacturing perspective. It also highlights what most colloquial discourse surrounding ethics in new technology covers: artificial intelligence, privacy, data and cyber crimes, but unlike the common coverage of these popular topics, the questions Dalmia and Sharma raise are questions that receive little attention, reflecting the deeper levels upon which technological developments operate in practice:

"The ethical implications range from the immediate (how are the algorithms behind Facebook and Google influencing everything from our emotions to our elections?) to the future (what will happen if self-driving vehicles mean there are no more jobs for truck drivers?)" (ibid)

In addition to the more direct impacts such as safety regulations for these new devices (i.e. Asminov's Law of Robotics and the potential harms of driverless cars), but as Dalmia and Sharma state in their article the implications of the Fourth Industrial Revolution go beyond the Internet and AI (ibid). Because of this, the approach of ethics should be considered through the breakdown of dynamic, but high-level, categories: Life Sciences; Artificial Intelligence, Machine Learning and data; Social Media and Gadgets; Bots and Machines (driverless cars, Robots, robot Bill of Rights?)(ibid).

If these categories are not distinguished, the risks they claim are: "...losing tremendous power to machines. We risk altering the course of humanity without fully understanding the consequences. We risk creating massive inequality between the 'techno super-rich' and a large underclass" (ibid). And that there is therefore a need, "...for a structured international forum to form a list of technologies that need governance, to evaluate each technology and release a blueprint for its code of conduct." (ibid).

The article concludes with two very powerful statements, one being a quote by Bill Gates:

"Traditionally, technology progress outpaces the political process: we already missed drafting the moral charter for the internet, and continue to play catch up till this day. We cannot afford to be blind-sided by the next frontiers, be in in biotechnology or AI. Our future is increasingly being scripted by engineers and entrepreneurs, who are not necessarily being held to account." (ibid)

"As Bill Gates put it, 'technology is amoral'. It is up to us to decide how to use it and where to draw the line." (ibid)

This reflects how essential having anticipatory approach to these issues will be, in order to better understand technology as it shapes human existence at a such a rapid pace.

1.5 Challenging Schwab: Critical Assessment

"The Third Industrial Revolution - the digital revolution - has yet to reach its vast potential, making it far too early to declare it over and done. It is possible that a new technology revolution, as powerful, expansive, and far-reaching in its impact on society as digitalization, will come along in the near or distant future, at which time we might affix the label "Fourth Industrial Revolution."

Jeremy Rifkin, president of the Foundation on Economic Trends in Washington, D.C and author of *The Zero Marginal Cost Society: The Internet of Things, the Collaborative Commons, and the Eclipse of Capitalism and The Third Industrial Revolution: How Lateral Power is Transforming Energy, the Economy, and the World* challenges Schwab's claims that the Fourth Industrial Revolution is deserving of its title. Rifkan's claims are in part reflective of his own academic

motivations to support his positions on The Internet of Things and the attributes of the Third Industrial Revolution, however he raises solid concerns regarding this classification of a Fourth Industrial Revolution and why challenging this concept is significant.

Despite his agreeing with Schwab's assertions of significant changes occurring as a result of these new technologies, he takes a critical position of Schwab's claim that the digitalization that is occurring is an entirely separate revolution than the Third Industrial Revolution, and posits this is because of what defines the Third Industrial Revolution: Digitalization and "...its ability to reduce communications, visual, auditory, physical, and biological systems, to pure information that can be reorganized into vast interactive networks that operate much like complex ecosystems." (Rifkin 2016).

"...Professor Schwab switches his argument away from what the technology does, concentrating rather on the dramatic temporal, spatial, and organization effects of digitalization, suggesting that the changes are so pronounced that they warrant the exiting of the Third Industrial Revolution and the entrance of the Fourth….onto the world stage." (Rifkin 2016)

The changes underscored by Schwab's argument Rifkin claims have been doing on for decades and therefore are an extension of the Third Industrial Revolution. After identifying a number of developments that have arisen recently, particularly advancements associated with near "Zero Marginal Cost" economic models, "are harnessing the productivity potential of the digital revolution by creating the digital platforms, algorithms, apps, and interconnections, speeding humanity into the digital era and a Third Industrial Revolution." (Rifkin 2016)

He also challenges Schwab's position about the speed, velocity, and scope of these new developments are current breakthroughs which have no historic precedent (Schwab in Rifkin 2016).

"Nor are exponential curves and velocity, scope, and systems impact only unique to the digital revolution. Consider, for example, the exponential curves and the velocity, scope and systems impact that accompanied the First Industrial Revolution as society was forced to make a wholesale transformation from a largely agricultural society to an industrial economy in less than four decades…For example, in the 19th century, steam-powered printing and the telegraph, abundant coal, and locomotives on national rail systems gave rise to the First Industrial Revolution. In the 20th Century, centralized electricity, the telephone, radio and television, cheap oil, and internal combustion vehicles on national road systems converged to create an infrastructure for the Second Industrial Revolution" (Rifkin 2016)

This is perhaps the most convincing argument in my opinion, to provide not a reason to disagree with Schwab but rather an argument to support the significance of considering the process of developing regulations during other revolutions in the past. To use these previous Revolutions as referential support, deserving to be examined alongside Schwab's claims of a new revolution entirely.

Rifkin concludes by positing these new developments are rather a representation of what he calls The Internet of Things era, "sensors will be embedded into every device and appliance, allowing them to communicate with each other and Internet users, providing up the moment data on the managing, powering, and moving of economic activity in a smart digital society." (Rifkin 2016).

“For the first time in history, the entire human race can collaborate directly with one another, democratizing economic life.” (Rifkin 2016).

Interestingly, his opinion on how this affects the ethical operations of our society: “The digitalization of communication, energy, and transportation also raises risks and challenges, not the least of which are guaranteeing network neutrality, preventing the creation of new corporate monopolies, protecting personal privacy, ensuring data security, and thwarting cyber-crime and cyber-terrorism. The European Commission has already begun to address these issues by establishing the broad principle that ‘privacy, data protection, and information security are complimentary requirements for Internet of Things services’” (Rifkin 2016).

“Does it really matter whether we classify the emerging technological configuration as a Third or Fourth Industrial Revolution? I believe it does...I would argue...that the evolution of digitalization has barely begun to run its course and that its new configuration in the form of the Internet of Things represents the next stage of its development.” (Rifkin 2016)

Part 2: Ethics in Digital Design

“We need our smartphones, notifications screens and web browsers to be exoskeletons for our minds and interpersonal relationships that put our values, not our impulses, first. People’s time is valuable. And we should protect it with the same rigor as privacy and other digital rights.” (Harris, 2016)

While taking a course titled ‘Digital Design Thinking’ we covered the topics of technological convergence, commodification of attention (Citton), and challenged the degree to which designers are responsible for the ethical designs of applications and technological devices users engage with on a daily basis. It was while writing about the latter topic, inspired by the article provided to us written by Tristan Harris - a former Google Design Ethicist - on Medium.com, that my curiosity for other ethical aspects of regulation and law making in a Digital Society or the Fourth Industrial Revolution was peaked. It was within this article, that the consequences of design ‘addiction’ masked by ‘engagement’ were revealed to me.

However, Harris is not the first to expose ethical challenges faced by designers and the responsibility of those who build and design new media to benefit society as a whole. In fact, in much of the scholarly literature surrounding this topic of ‘technoethics’ and general digital media ethics, the conclusion of most is that these new devices should in fact advance society in a positive way; introducing regulatory measures successful enough to allow users to engage with these devices safely and with enough control but not compromising the creative potential of the designers to create devices with limitless capabilities.

Before examining ethical philosophers before Harris - not that Harris considers himself a philosopher - I will summarize the ‘issues’ Harris proposes in what he feels is a world where we are currently being exploited for the psychological vulnerabilities of our minds for capital gain. Furthermore, he feels this ‘issue’ is detrimental enough to call for a revolution he feels should focus on ‘Time Well Spent’ (2016). The contents of this article are essential to examine in order to provide context of ‘media panic’ mentality which often times influences the policymaking and regulation decisions implemented, the depth in which these devices are affecting/influencing our behaviours on a biological level, and to reinforce the speed in which these developments occur, apparent only to a few - those who design and

those who produce - making it even more imperative that we more closely examine the far reaching effects of these devices on the shaping of our human experiences.

2.1 Google Ethicist - Tristan Harris / Ethical Limits of App Design

In this anecdotal, periodical piece by Harris, Harris outlines, with severity, how powerful digital entities are taking advantage of user weaknesses in order to push business goals and objectives at the expense of user agency, awareness and 'freedom'. Harris provides nine 'hijacks' to demonstrate this idea: 'menus' and power of choice; intermittent variable rewards; fear of missing something important; social approval via specific social media engagement features; social reciprocity; infinite feeds and autoplay; instant interruption rather than what he calls 'respectful delivery'; disillusioning user's initial reasons for engaging with a platform to be coupled with the businesses' reasons; inconvenient choices; forecasting errors or the *'true cost of a click'*. Of these outlined 'hijacks' the most interesting is 'intermittent variable rewards.

Designers have been using this 'psychological ingredient' to coax users to continue to use design features under the feeling that they are gaining something as a result. "If you want to maximize addictiveness, all tech designers need to do is link a user's action (like pulling a lever) with a *variable reward*." (Harris 2016) "Apps and websites sprinkle intermittent variable rewards all over their products because it's good for business." (Harris 2016)

This design tactic however, Harris sees as an unintentional consequence:
"For example, there is no malicious corporation behind *all of email* who consciously chose to make it a slot machine. No one profits when millions check their email and nothing's there. Neither did Apple and Google's designers *want* phones to work like slot machines."

He refers to this as: *"Hijack 2: Put a Slot Machine In a Billion Pockets*" claiming, "if you want to maximize addictiveness, all tech designers need to do is link a user's action (like pulling a lever) with a *variable reward*." (Harris 2018)

The reason intermittent variable rewards are essential when assessing digital media ethics is because it demonstrates evidence of design features that can ultimately influence users on a level deeper than their consciousness permits. Whether these 'exploits' are the responsibility of the designer to use or the user to be aware of, is still to be determined, it is evident however that at the very least users are not widely aware of these design decisions going into the features of their favorite apps; nor are they actively choosing to participate in what appears to be design features designed/created to increase users and ultimately the bottom line of business owners, stakeholders, and Silicon Valley investors.

The second essential part of this relationship is the commodification of attention. This concept, deeply explored by Yves Citton and discussed later in this paper is also mentioned in Harris' discuss: "they play your psychological vulnerabilities (consciously and unconsciously) against you in the race to grab your attention." (Harris 2018)

Harris' concludes with:
"We need our smartphones, notifications screens and web browsers to be exoskeletons for our minds and interpersonal relationships that put our values, not our impulses, first. People's time is valuable. And we should protect it with the same rigor as privacy and other digital rights" (Harris 2018). Reflective of the optimistic

opinions shared by scholars mentioned earlier in this paper as well as contributing almost subtly to the media panic which influences reader or user perceptions about the power of technology to be “good” or “evil”.

2.1.1 Critical Assessment: Digital Device Designer Ethics

In Issie Lapowsky’s article, Lapowsky calls for a “Grassroots Revolution” to inspire urgency regarding the push for a more ethical technological agenda. She uses positions posed by Tristan Harris’ foundation, the Centre for Humane Technology, and the speech he gave during the “The Truth About Tech conference” to inspire this movement.

“...[the] central goal is to spark a mass movement for more ethical technology, in order to put pressure on Silicon Valley giants like Facebook, Google, and Apple -- the kind that the Center’s leadership says has been entirely missing in Washington” (Lapowsky 2018).

Drawing upon claims made by Harris, she furthers her argument by agreeing with his position that it is the responsibility of “tech media giants” to make more ethical choices with users in mind for their designs, rather than profit. She even highlights the level of deception sometimes used to push what she feels is an unfair agenda, “but as Harris first discovered back when he worked at Google, addiction is precisely the intended consequence of ad-based businesses. It’s just that in Silicon Valley, they have a different word for it: engagement.” (ibid)

It’s important that we consider these arguments because Lapowsky is correct in that,

“always-on technology is now baked into the social fabric….The teen who quits Snapchat risks missing out on the primary way his peers communicate. The employee who declines to answer her boss’s after-hours email risks losing career opportunities.” (ibid)

One of the “hijacks” Harris highlights. Although arguable to some degree, and there are always exceptions to every rule, this is more often than not the standard.

This dependency Western society appears to have on digital media, adds an additional layer, which is often more commonly discussed, the psycho-social effects it has, has had, and is having on “digital natives”. In Lapowsky’s article, she quotes Jim Steyer, the CEO of Common Sense Media to describe this, “just like we’re watching the extraordinary changes in our physical environment, we’re watching extraordinary changes in our social, emotional, and cognitive environment” (ibid).

Although this is not an academic paper, there is evidence to support relationship Lapowsky and Steyer feel regarding biological effects it has on users, such as being rewarded neurologically with “a hit of dopamine” encouraging younger users to want to engage with this activity again (ibid). Although Lapowsky contributes to the “media panic” discourse surrounding this issues by claiming,

“We see the outgrowth of these changes in the brain that are manifesting themselves as mental illness in children...pointing to research that has shown spikes in the rate of depression and suicidal thoughts among kids over the last eight years.” even if these consequences are an unintended result of technological progress, as claimed by senator Mark Warner in Lapowsky’s article (ibid). Not to say that these claims are unjustified, but rather that in report-talk around this subject, negative consequences are often more “hyped” than true examination causing users to divide themselves into binary opinions of new media, as stated above, and as examined in the following Interview responses conducted for purposes of this paper.

The solution, Lapowsky suggests, again touches upon Harris' agenda, "Which is why Harris is calling on the companies themselves to redesign their products with ethics, not purely profits, in mind, and calling on Congress to write basic consumer protections into law." (Lapowsky 2018)

Categorizing these effects to be a large as other significant historical movements in Western culture, "After all, if tech platforms are influencing the way people think about the world, the way they think about each other, and the way they think about themselves, then they're also influencing the way we talk about women's rights, the climate, and immigration. If we're going to fight over those issues, we might as well fight for a healthier arena." (Lapowsky 2018)

2.2 Commodification of Attention

In a review of Yves Citton's *For an Ecology of Attention* by Jason Read on The New Inquiry, Read states:

"Unlike labor, attention is difficult to render 'abstract,' in Marx's sense. While capital is utterly indifferent to the individuals underlying labor power, buying their time and not their individual personalities, *who* pays attention matters as much as clicks or time on a site to those who track it, making it difficult to impose the sort of standardization of attention that any abstracting and quantifying requires." (Read 2004)

Autoplay, design features, strategic placements, algorithmic suggestions and trending topics are just several of the ways digital media designers are able to capitalize on time spent by users. Although the concept of commodifying attention is not technically new, evidence of course can be seen in other mediums like the evolution of advertisements and television commercials, as well as propaganda in movie theatres, the difference here however is the relationship individual users have to choosing how to spend their time, "...trending topics and members have broken the old 15 minutes of fame down to the microsecond. Attention must be constantly reconstituted in the present."

Read posits a critical point in this relationship users have to how they spend their attention, citing Citton's acknowledgement of activity as being always dependent on other conditions and relations. (Read 2004)

It is clear that we are confronted with ethical challenges to the way we interact with technology and our own ecosystems, however, as Citton argues, if we are active agents the the way we 'make' attention, then it is not to the responsibility of those in charge of production.

There needs to be a balance between those who are aware of these ethical discrepancies, however, there also needs to be individual agency in the way users engage with their technologies to become more greatly aware of the effects these digital developments appear to have a minimal impact on daily life - aside from facilitating previously mundane tasks - in order to take control over the potential these pieces of technology have.

If these devices are being designed with the primary motive of increasing capital, and the consequence of that is sometimes at the expense of human being's psychological weaknesses, then it is also in part a reaction to the user data motives they themselves have collected and are therefore creating these designs based on what they have concluded will be most effective

"...attention manifests itself as softer form of power, one that shapes individuals as active participants. Whereas the old media maintained attention by its

monopoly -- three channels to watch, and so on -- new media must constantly solicit us as subjects of attention. We must actively create our own distractions. " (ibid)

"Work, entertainment, and social life convergence in a state of constant semi-attentiveness, Citton argues. It is hard to tell if the person obsessively checking their phone is waiting to hear back from work or following the latest twitter meltdown of a celebrity."(ibid)

"Updates and alerts define our work life, social life, and define what remains of politics. To transform this would require the cultivation of new habits and new, transformative ways to use the existing technologies of attention."(ibid)

"How, then, can we construct the possible conditions for that...It is a matter of constructing common notions against the singular points of wonder and fascination. The first act of collective intelligence, and collective action, is branking with the constant breaking news, the latest scandal, or think piece, that demand immediate attention keeping us in a state of constant awareness."(ibid)

"Constructing collective intelligence entails grasping the commonalities that pass beneath the headlines and scandals, seeing the commonalities that define our collective existence. Doing so passes through the same networks and techologies but assembles them differently." (ibid)

"An attention ecology, Citton argues, can create the conditions for a new collective intelligence…' (ibid)

"Citton is right to suggest that new practices of attention are necessary for different politics and ethics." (ibid)

2.4 Ethics and Privacy

Part 3: Methodology

In approaching the methodology portion of this dissertation I myself was met with some challenges. In my primary desire to demonstrate the relationship between The Fourth Industrial Revolution, ethics and law-making it would be perhaps be an advantage to examine the socio-legal relationship between new devices and law making over time in either the United Kingdom, The United States or both. This would require quite a labour intensive, comparative, Classical Content Analysis of historical documents to which I have not the resources to gather.

However, based on the desire to exemplify this thesis of proving the effects of digital media in society from a legal perspective, I explored alternative options. From the literature provided, I came upon E. Gabriella Coleman's *"Ethnographic Approaches to Digital Media"* where she highlights "the prosaics of digital media" (Coleman 2010). Coleman's observations of applied ethnographic research to the effects digital media have had on the way society operates from an anthropological perspective. Unfortunately, ethnographic research also requires an intensive amount of time and resources outside of my abilities, I was still inspired by the concepts demonstrated by Coleman. For example, Coleman's explanation of "the prosaics of digital media" as, "...examines how digital media feed into, reflect and shape other kinds of social practices, like economic exchange, financial markets, and religious worship." (Coleman 487)

Like Harris, Coleman highlights the application of theories conceived by observing slot machine addicts in Las Vegas for scholarship on human-machine interaction (Coleman 2010, 496) to support her research recommendations.

"A number of researchers turn away from groups and frame their analyses of digital media along the axes of perception and self-awareness...affect and addiction (Chan 2008b, Golub & Lingley 2008, Schull 2011)...Schull provides a wide-ranging ethnographic analysis of slot machine addicts in Las Vegas, for whom gambling becomes a means of self-suspension in which 'time, space, the value of money, social relations, and even a sense of the body dissolves' (2008 p.155; for scholarship on human-machine interaction, see Suchman 2007 and Nardi & Kaptelinin 2006)" (Coleman 496).

Coleman goes on to compare this human-machine relationship to be similar to, "...the seemingly disembodied interaction that occurs online, digital media, especially the Internet, may seem to be a quintessential non-space as defined by M. Auge (1995)." (Coleman 496).

These two points brought up by Coleman, conveyed to me similar instances of challenged ethics of user experiences of new media. Therefore, I devised my approach three-fold. Firs being a survey of questions, derived the 'hijacks' described by Tristan Harris in his article. Due to small sample sizes via the convenience method, I supplemented survey results with an in-depth, open-ended interview. Lastly, what I most wanted to explore was a socio-legal analysis of the Mark Zuckerberg Senate hearing regarding the data breach involving Cambridge Analytica. The ability to carry out a micro-case study using contextual analysis of the hearing transcript, combined with personal interview questions about people's opinions of the event and data management and privacy concerns with new media in general will be included in my next steps of this research.

3.1 Research Philosophy

By examining two major points of ethical challenges in a technological context: user reflections of device design 'manipulation' and personal experiences of "time spent".

Initially wanted to stay away from privacy, data essentially any other mainstream topic which has caused widespread fear and panic over a digital takeover/technology however in researching the ways in which ethics have shifted as a result of this revolution it would be almost impossible to overlook or dismiss completely the issue of privacy. The reason I wanted to focus on topics more specific than general regulatory topics is to highlight the deeper relationships to convergence technology and new media that we have developed and the psychological or even biological processes that have been affected as a result. It is because of this that privacy here will serve as an example of how digital media has changed the perception of self and caused tangible results to be amended as a result (GDPR law, etc).

I also felt having more information about those in the field who are designing or participating in the design decisions of these programs, would be a useful contribution as this essay also aims to continue and expand the dialogue of digital design in the context of ethical, philosophical and legal discourse initially. However, upon further reflection, it became more apparent to me that the significance of this research derives from the observational impacts these issues have on users, and society at large, rather than those who appear to already have access and knowledge of these unethical challenges. Therefore, as reflected in the methodology below, I selected questions to focus on specific instances and examples where this

dialogue can either be strengthened or reinforced in terms of ethical challenges faced as a result of applied technology.

3.2: Research Approach

A triangulation method was applied through the distribution of a survey, interview and brief micro-study of the Mark Zuckerberg hearing vs. the United States Senate regarding a privacy breach involving Cambridge Analytica.

Although the nature of this essay is primarily philosophical in terms of observing ethical challenges as presented by technological developments in 'the Fourth Industrial Revolution' and the areas of society which these ethical challenges affect, the aim of the analysed theories is in fact to make more informed regulation practices. Because of this, the potential for a socio-legal analysis is available. Outside of analysing specific cases in law which exemplify either an overcoming of these ethical challenges, a deeper understanding of these challenges or a shortcoming of these challenges, qualitative research is necessary in having greater insight to how these new developments operate in society on a natural level.

In Lisa Webley's *Qualitative Approaches to Empirical Legal Research*, she presents methodological approaches exactly this way. "This Chapter will not focus on common law legal analysis of cases but instead provide an insight into different qualitative methods...used in studies examining people's perception of law and justice…" Webley uses a definition of qualitative analysis presented by Kirk and Miller (1986: 9) as,

"...fundamentally depends on watching people in their own territory and interacting with them in their own language, on their own terms. As identified with sociology, cultural anthropology, and political science, among other disciplines, qualitative research has been seen to be 'naturalistic,' 'ethnographic,' and participatory.'"(ibid 1) In addition, qualitative research Webley states is best used to "...capture and categorize social phenomena and their meanings." (ibid 2). As well as,

"...qualitative research would agree that it is socially concerned, examines phenomena in their social settings (if field work is being undertaken) and considers those phenomena in context." (ibid 3)

Because the reactions to new technology on society members and social environments characteristic of phenomena, qualitative research is the most appropriate choice here; subsequently basing the results heavily on inductive reasoning, "..inductive reasoning seeks to derive general themes or patterns from the data collected as the research progresses." (ibid 3) – even though this opens up the possibility for generalizations and biases of course.

3.3: Primary Research

3.4: Research design and data collection method

"In qualitative research, the data are usually collected through three main methods, used singly or in combination: direct observation, in-depth interviews and analysis of documents."(Webley 2)

Standard quantitative methods were used to analyse survey data. The questions as previous noted were based off of the "hijacks" proposed by Tristan Harris. The aim of the survey was to test the validity of his claims, and particularly, as these hijacks are based on the unawareness of users, I was curious to know how

users felt after being exposed to these, and whether these design strategies can be classified as an ethical issue. Is device addiction a truly ethical issue?

"...quantitative research methods for explanatory research (research designed to determine why or how an issue, situation or problem as it is)..." using these survey results as a casual data reference to supplement the qualitative research methods used to examine other aspects of ethical challenges in new media. In qualitative findings, "...should provide insight into a phenomenon and the extent to which it is present or absent; but unlike quantitative research, qualitative findings rarely provide a measure of frequency of occurrence." (7)

Qualitative methods were implemented to analyse interviews and review Zuckerberg hearing material. These methods were rooted in grounded theory, "the process usually involves meticulous analytic attention by applying specific types of codes to data through a series of cumulative coding cycles that ultimately lead to the development of a theory - a theory 'grounded' or rooted in the original data themselves."

After collecting the data, the found results were interpreted as codes and reorganized codes into categories "...to develop 'axis' categories around which others revolve, synthesize them to formulate a central or core category that becomes the foundation for explication of a grounded theory." (Saldana 51-2).

3.5: Sampling

"All researchers need to consider whom to interview, or what to observe or analyze, and how many participants or data sources are necessary to elicit findings in which one may have confidence." (Webley 6)

The sampling approach adopted for both the interview and survey was rooted in Convenience sampling. "Convenience sampling (also known as Haphazard Sampling or Accidental Sampling) is a type of nonprobability or nonrandom sampling where members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included for the purpose of the study (4: Etikan et al. 2)

Although it could be argued that participants of this survey and interview were selected through purposive sampling, as all participants possessed the same characteristics of belonging to a classifiable, 'Western'/'Globally Northern' country, had ease of access to mobile devices on a daily basis, Internet, and other technological advancements that actually contributed to the ability of the sample to answer targeted questions within both the survey and interviews. Purposive sampling - also called judgement sampling - is, "...the deliberate choice of a participant due to the qualities the participant possesses." (ibid 2). This technique Etikan claims does not require underlying theories or a set number of participants (ibid 2). "This involves identification and selection of individuals or groups of individuals that are proficient and well-informed with a phenomenon of interest" (3 in ibid 2). Knowledge, experience, availability and willingness to participate in a reflective and articulate manner are the essential motivations behind selecting this method (Etikan et al 2). "...the idea behind purposive sampling is to concentrate on people with particular characteristics who will better be able to assist with the relevant research" (Etikan et al 3). Within this category of Purposive sampling: Homogeneous Sampling, a "...form of sampling...similar in terms of ages, cultures, jobs or life experiences. The idea is to focus on this precise similarity and how it relates to the topic being researched." (Etikan et al 3).

Purposive sampling is more frequently used in qualitative studies, convenience sampling technique more frequently used in quantitative. (5 in Etikan et al 3). Such

was the approach to my methodology.The primary approach to the sampling methods being non-probability sampling, specifically convenience sampling, judgement (or purposive) sampling.

The survey results reflect the opinions of 19 participants, which is a sufficiently low number of participants to draw a conclusion from, representative of many populations, "if the data do not cover an entire population, it is important that they are from a sufficiently large and representative or random sample of that population, if the researcher wishes to argue that conclusions be drawn from the data about the entire population." (Webley 6-7) For this reason, the sample will be a contribution to a larger data analysis and no generalized conclusions are to be drawn from the survey data collected.

3.5.1: Participant Profiles - Interviews

Participant A *COUNTRY:* **USA** *AGE RANGE:* **55-65** *OCCUPATION:* **Marketing**	**Participant B** *COUNTRY:* **USA** *AGE RANGE:* **25-35** *OCCUPATION:* **Digital Media**	**Participant C** *COUNTRY:* **France** *AGE RANGE:* **25-35** *OCCUPATION*: **Engineer**	**Participant D** *COUNTRY:* **Canada/UK** *AGE RANGE:* **25-35** *OCCUPATION:* **Public Relations**	**Participant E** *COUNTRY:* **Greece/UK** *AGE RANGE:* **18-25** *OCCUPATION:* **Digital Marketing**	**Participant F** *COUNTRY:* **USA** *AGE RANGE:* **55-65** *OCCUPATION:* **Data Management**

Table 1. Participant Profiles

3.6: Data Analysis

As previously mentioned, the data was analysed through the grounded theory approach, "...grounded theory involves developing theory as the research proceeds rather than testing a hypothesis posited in advance." (Cane and Kritzer 15) As this particular essay is to analyse the opinions of digital media users to have a more informed perspective of how actual users engage with new technology and their ethical concerns, as defined by themselves, I am additionally incorporating elements of the Grounded theory method concept.

"It allows the researcher to seek an understanding of an area, by developing and refining a theory as more is learnt about the area...grounded theory provides a framework for the whole research process and not simply a means of extracting data. It is a theory of research, a data collection method, a mode of analysis and a way of generating theory." (Webley 15).

"A well established theory is formed after three stages of analysis….Stage one is to analyze the documents, interview transcripts or observation notes to discover conceptual categories from the data -- basic codes." (Webley 15) Webley describes this process as being performed by taking systematic notes of the examined phenomena that are important in each sentence or paragraph, to come up with concepts; with the researcher taking note of anything that "strikes her as she is reading each line of text" (Webley 15). Going beyond just observations made by the analyzed text, and including personal reactions or associations that spring to mind from reading the reviews (Webley 15).

Because of this, I chose to send out the interviews individually for people to complete on their own, and viewing all of the interviews together for one coherent

reaction. This is to also supplement the way I have chosen to analyze the hearing. Rather than watching the full video of the exact hearing and focusing on more minute details akin to a classical content analysis, which would provide me with data involving specific reactions, I do not feel I am scientifically qualified to make such observatory assessments and would rather focus on the responses provided to me in regards to the subject matter being explored.

3.6.1 Survey Analysis

The survey aimed to gather general data and opinions of digital design in practice, as experienced by users. All of the participants were briefed on the purpose of the survey in advance, while being provided a link to the survey. The survey was distributed at random via the convenience method. The following questions were inspired by and based on the list of “hijacks” proposed by Tristan Harris, and aimed to gauge the opinions of users from their own perspectives. Please see Appendix **X** for survey answer options.

The survey examines user awareness of digital device manipulation as proposed by Harris, the interview is a deeper examination of these opinions with additional information about user feelings toward privacy and specifically their reactions to the Cambridge Analytica breach, and lastly an analysis of the actual transcripts from the United States Senate hearing with Mark Zuckerberg to illustrate the challenges presented by misunderstanding of the particular piece of technology in question, misinterpretation of the compromised data in question, as well as the language used to form public user opinions of the detrimental and devastating effects this ‘breach of trust’ caused - despite many public opinions of having no deeper knowledge of the negative effects beyond media panic.

Q1. *How often do you rely on Yelp, Google Maps, FourSquare or other location/spot-finding*
services to discover new places to visit?
Q2. If you do use these services, how often do you ask yourself if there are other places to go not suggested by these options?
Q3.*The average person checks their phone 150 times a day. How often would you say you check your phone per day? (approximately)*
Q4. *Remember the last time you checked your email. When you refreshed the inbox, were you looking for a particular email? If so,was this email one you were looking forward to?*
Q5. *If you took a wild guess, how many emails do you think you are currently subscribed to?*
Q6. *If you are not satisfied by this amount, what would be your main reason for not actively unsubscribing to these emails (you may choose as many as you feel apply)*
Q7. *How often do you think you check social media sites to see what others (acquaintances, friends, family, etc.) are doing?*
Q8. *When you visit social media sites (Facebook, Instagram, Twitter, SnapChat, etc.) how often do you visit for one reason and remain on the site for entirely different reasons than you began?*
Q9. *Please select all that apply. On your current mobile messaging service:*
Q10. *Lastly, if you were to discover that all of the app/device/platform usage 'habits' you've developed were in fact by deliberate design to 'hijack' your time and attention - would you be more conscious of how you spent time on your phone?*

Question	Most	2nd Most	3rd Most

Q1	Very Often (47.37%)	Often (26.32%)	Sometimes (26.32%)
Q2	Sometimes (52.63%)	Often (31.58%)	Rarely (10.53%)
Q3	50 - 100 (52.63%)	20 - 45 (31.58%)	100+ (5.26%)
Q4	#1 (47.37%)	#5 (15.79%)	#2, 6 & 7 (10.53%) *with explanations
Q5 (emails)	1 - 10 (42.11%)	20 - 30 (42.11%)	10 - 20 (10.53%)
Q6	Takes too much time	Do not care	Too complicated
Q7	Sometimes (31.58%)	Very often (26.32%)	often (26.32%)
Q8	Usually (36.84%)	Always (31.58%)	Sometimes (21.05%)
Q9	#3 (78.95%)	#4 (68.42%)	#2 (63.16%)
Q10	I already knew (26.32%)	Probably not,definitely yes, possibly yes (21.05%)	Maybe, other (5.26%)

In summary: the survey results essentially demonstrated that users feel responsible themselves

1. People do not always classify technology as rendering them as helpless
2. They consider themselves to be active participants in the deeper choices they make when engaging with technology (0% of participants selected “never” for question 2)
3. Most people feel they are in control of how often they check their phones, with majority selecting 50 - 100
4. Actively use the design features
5. Ease of use is very important in eliminating unnecessary emails - subscriptions
6. Fear of missing out - the highest results were the most frequent three
7. People usually become engaged with some other activity than they started with when they use these sites
8. Almost everyone receives a notification of some sort (vibration or sound), preview, and more than one messaging service
9. Was very interesting because there did not seem to be a majority answer. It was almost 50/50 in terms of people feeling either like they would absolutely make changes vs. those who felt they would not do anything at all or already knew and would therefore not do anything at all.

3.6.2 Interview Analysis

In the interviews t was necessary to look at the potential ethical dilemmas of user experience but also with the application of real life ‘ethical’ challenges faced and the attempted regulatory assessments that have either risen to the occasion or fallen short as a result of lack of understanding or access to information. The depth of

digital design ethics is equally as important to look at because it represents an underlying consequence of the internet and mobile device/platforms effectiveness in pervading society. Therefore, rather than looking at traditional ways to regulate negative consequences that might arise from new technologies, it is important to have a complete picture of how these devices operate in society as well as why, according to the designers themselves and self-regulating owners of these media platforms.

The interviews aimed to answer the following research questions:

- How have traditional [interpretations of] ethics changed as a result of new media?
- How important are ethics to digital media users on a daily basis?
- How much agency and awareness do users feel they have in the decisions they make daily while engaging with technology? What is the significance?

Paying particular attention to how people describe their interactions with technology in their own words. Because the open-ended questions were based around opinions, behaviors and values I adopted the Values Coding approach, analsying each interviewee response line by line, extracting words which appeared significant to me, then narrowing them down to one word codes in the second phase. I used these codes to find a patterns in responses.

3.7: Coding

Gibbs as quoted by Webley: "...involves identifying and recording one or more passages of text or other data items such as the parts of pictures that, in some sense, exemplify the same theoretical or descriptive idea. Usually several passages are identified and they are then linked with a name for that idea -- the code. (2007: 38)." (Webley 12)

"Researchers read the text to pull out emerging themes, attempting to make them as specific as possible by analyzing how they are used, the limits of their use, the context within which they appear and so on. Once these themes solidify, they become 'codes' which may then be counted and considered in relationship with other codes." (Webley 13)

Interview: By analyzing each line from the interview transcripts I will be taking the 'open coding' (Webley 15) approach, describing the contents of the interview line by line, subsequently drawing patterns and conclusions together based on these reactions and observations - in order to attempt to provide replicable concepts rather than one-off observations (Webley 15).

The second coding phase, the "axial coding stage" involves producing theoretical categories within reference to the memos developed in stage one (Webley 15).

3.7.1: Coding Format

Pre-coding: "...by circling, highlighting, bolding, underlining, or coloring rich or significant participant quotes or passages that strike you -- those 'codable moments' worthy of attention (Boyatzis, 199)" (Saldana 19).
Phase 1: employing rich text features to the memo notes taken on interview transcripts, for "'at a glance' separation before coding and analytic review" (Saldana 20) Column separation

In Vivo Coding technique to analyse the interview transcript submissions. "In Vivo Coding is one of the methods to employ during grounded theory's Initial Coding…"

(Saldana 91) “In Vivo Codes capture ‘behaviors or processes which will explain to the analyst how the basic problem of the actors is resolved or processed’ (Strauss, 1987, p.33) and ‘help us to preserve participants’ meanings of their views and actions in the coding itself’ (Charmaz, 2006, p.55).(Saldana 94).

Combined with Values Coding, “Values Coding is the application of codes onto qualitative data that reflect a participant’s values, attitudes, and beliefs, representing his or her perspectives or worldview.” (Saldana 110)
“...A *value* is the importance we attribute to oneself, another person, thing or idea.” (Saldana 111)
“...An *attitude* is the way we think and feel about ourselves, another person, thing, or idea.” (Saldana 111)
“...A *belief* is part of a system that includes our values and attitudes, plus our personal knowledge, experiences, opinions, prejudices, morals, and other interpretive perceptions of the social world.” (Saldana 111)
V: (Value), A: (Attitude), and B: (Belief)

Part 4: Analysis Results

Within respect to the definition provided by Webley on executing the final stage of data analysis for grounded theory, this analysis must include the theoretical categories produced in stage two of the coding phase “...to develop a core concept, theory or conclusion” (Webley 15).

4.1 Analysis Results: Survey

Interview:

4.2 Analysis Results: *How have traditional [interpretations of] ethics changed as a result of new media? (ATTITUDES)*

Most common responses, Attitudes

	Mistrust
	Impulse
	Agency
	Awareness

4.3: Analysis Results: *How important are ethics to digital media users on a daily basis? (VALUES)*

Most common value factors

	Privacy
	Productivity
	Convenience and Choice
	Morals

4.4 Analysis Results: ***How much agency and awareness do users feel they have in the decisions they make daily while engaging with technology? What is the significance? (BELIEF)***

Most common belief factors

	Awareness
	Regulation
	Ethics
	Motives

In conclusion, the interview results yielded insightful results regarding people's personal perceptions of ethics, media design and agency. Agency of course based on the codes produced appeared to have the most visible frequency, with morals and privacy as values coming strongly behind in terms of what users find important when engaging with new pieces of technology. Interestingly as well, the correlation between having access to information, such as a Terms & Conditions section or an article that provides more information on how to better optimize "time well spent", participants and responsibility cannot be drawn here. Rather, the Terms & Conditions appeared to be an obstacle, reflective of survey results, which is ease of use. Many of the respondents of the survey appeared to value ease of use and convenience over "being disturbed" as concluded by the "opt-out" question. Similarly, in the interviews many people "skimmed" or "Read quickly" terms & conditions out of curiosity but likely lose interest due to the language used in these documents, length and clarity. The risk of using new technology is worth the reward, these devices which ironically make life easier have an advantage over the knowledge of them which is more of an obstacle to understand or even obtain.

4.5 Cambridge Analytica, Mark Zuckerberg and the U.S. Senate

Instances, like the Cambridge Analytica hearing, are only greater indicators not only of how our institutions and government structures/apparatuses are ill equipped/struggling to keep up with these digital mediums; but the lack of foresight or the lacking of discourse that seems to be preventing these greater social structures from anticipating potential ramifications of such impactful designs/introductions. -- that are not only rapidly being introduced, but swiftly adopted.

Part 5: Conclusion and Discussion

Those being interviewed appeared to have a sense of agency and awareness over the limitations and potential harms of being dependent on devices. Whether the respondent felt they knew and engaged regardless, on a more classifiably unaware level; or the respondent was aware and actively made conscious choices to engage with technology despite knowing its harms, was most interesting.

Participants also felt that they were in fact being deceived, and in the tone of the responses, reflected that despite their awareness of potential harms, they would like to know more about the ways in which they were not making active choices.

Harris is definitely correct in his claim that people want to have control over the things they use in their lives, or at least transparency, but notably within the interviews, none revealed a feeling of blame toward the designers. For this reason, I remain consistent in my position formerly made in the previous paper that the ownership and responsibility belongs in both the hands of the designers as well as the users in their desire to learn more after having these concerns brought to their attention.

Additionally, despite people's feeling of agency and desire for information to make informed decisions, very few admitted to reading the terms and conditions provided. Not to say that this is an indicator of a discrepancy between intention and application but rather a reason to advocate for more effective ways to communicate essential user information to users.

Although when it comes to the commodification of attention, and the way digital agencies are able to exploit our natural abilities to be engaged with aesthetics and interesting things, it is much more tier-ed.

Perhaps, with more fixed technology such as artificial intelligence, there is a greater opportunity for more standardized regulations, laws, and design restrictions as they have not yet been introduced into society on a large scale - aside from tools such as Siri and Alexa. The potential for more extensive ethical evaluations of the potential harmful impacts of their uses in society is still there. Additionally, the ramifications of

Therefore, there is still an evident need for there to be a stronger dialogue between these realms of sociology, psychology, digital design, developers, stakeholders, and more in order to assess the effects new media is rapidly having on society and the best way that we can encourage a more positive outcome that is more within our control of the progression of humanity than we had an opportunity to have with the rapid rise of social networking sites which we are still evaluating the biological damages being done to digital natives who have had an almost entirely different adolescent experience than that of their parents and generations before them. Not an unfamiliar experience where generations have had significant social shifts as a result of new technological developments impacting the human experience, however the gap between those who have had exposure to certain levels of technology are much smaller having had these technological advancements be introduced at such a rapid pace.

Part 6: Limitations and Future Research

One of the greatest limitations to my methodological research is a sufficient sample size to be representative of the claims my initial thesis sets out to examine. Although responses collected provided insightful information about how users perceive their own engagement with digital media and devices, many of the questions upon later reflection could be more leading than neutral. Additionally, despite my desire to reach a varied audience of ages – based on digital native, device familiarity – it was not varied in cultural experience and can therefore only represent a small group of users. Additionally, perhaps further exploring political positions or education levels would be useful here, at least in the interviews, to better assess patterns of opinions that might be traced to structural beliefs.

In terms of the technical methodological approaches chosen:

"Many criticisms have been levelled at the grounded theory approach. Commentators such as Denzin note that grounded theory only goes part way to meeting the needs of some interpretivist researchers because grounded theory is a product of an empirical research genre which seeks to systematize the research process to allow for replication of findings as required by positivist research theory (Denzin and Lincoln, 200: 509-35)" (Webley 16).

This is perhaps one of the most meaningful criticisms of my chosen approach because it reiterates the scientific importance of these particular findings in terms of contributing to a more crystalized conclusion or solidification of the proposed theory. However, in the case of this dissertation, the objective is to demonstrate the reactions or personal experiences of ethical challenges presented by digital media, outside of conventional ideas of what unethical digital designs might be as portrayed as by the media (cyber crimes, cyber bullying, privacy and data breaches, etc.).

"However, this assumes that the researcher considers that the core concept she has abstracted into theory is an objective truth that has been discovered in much the same way as which scientific principles may be established. (Webley 16)

"On the contrary, the grounded theory methodology can be understood as offering a method of undertaking research as well as a systematic approach to qualitative analysis, a strategy for research rather than as method to generate more positivist findings. Like most modes of qualitative analysis, it is broadly inductive and thus seeks to draw out concepts from the data, to organize them and to theorize them, but to do so in a structured and considered fashion." (Webley 16)

And of course the obvious challenges faced when making assessments based on a sample size selected through convenience Sampling: "...the obvious disadvantage of convenience sampling is that it is likely to be biased...convenience sampling should not be taken to be representative of the population." (Etikan et al 2) making convenience sampling also vulnerable to severe hidden biases (Etikan et al. 2) Some literature even disregard this particular method of research entirely based on the severe limitations it provides in social research (Etikan et al 2).

This is why I would conclude the results found by the methodological approaches in this essay would be a very preliminary level of research, a starting point upon which to answer further questions that came from the research found. As well as a larger sample size to have a deeper critical analysis of findings.

APPENDIX

Appendices

A. Interviews
A1. Interview Discussion Guide
Digital Media Ethics Interview -

Background: This interview is for a dissertation which aims to answer the following research questions: How have traditional [interpretations of] ethics changed as a result of new media? How does this affect policy, law, and regulation? What can we do, to better understand and anticipate more adequately, these affects so that the negative impacts on social advancement can be minimized while not compromising/stifling creative expression and development?

Objective: To have a better understanding of user opinions of current mobile digital device designs, current ethical challenges proposed by scholars as a result of data and social media platforms.

The following interview questions will take approximately 15 - 25 minutes to complete. Please answer to the best of your ability and knowledge and feel free to skip any irrelevant questions or questions you do not understand.

Name:
Country:

1. Briefly. How would you 'define' ethics in your own words?

2. How important are ethics to you in regards to the digital, mobile devices you use on a daily basis?

3. How often would you estimate that you used your phone, tablet or digital device per day? How often do you feel the impulse to check it?

4. Do you feel that being ‘connected’ - meaning, having a mobile device that allows you to interact with friends, colleagues, peers, and acquaintances - compromises your ability to focus on important tasks? Difficult to prioritize?

5. How often do you need to engage with a mobile device to perform your daily work duties?

6. In an article written by Tristan Harris, a former Google Ethicist, he outlines several different deliberate design decisions he claims designers use to ‘hijack’ the psychological vulnerabilities of users, which in turn causes them to be more dependent on their devices. One example of this is the gesture of pulling down your screen to refresh inbox notifications purely by impulse, rather than the actual desire to see new messages appear. With this in mind, do you feel there are gestures you engage with on your mobile devices that cause you to ‘waste time’ rather than achieve a purposeful goal? (you can read the full article here, if you are interested: https://medium.com/thrive-global/how-technology-hijacks-peoples-minds-from-a-magician-and-google-s-design-ethicist-56d62ef5edf3

> *“Which is why Harris is calling on the companies themselves to redesign their products with ethics, not purely profits, in mind, and calling on Congress to write basic consumer protections into law."*
>
> *“After all, if tech platforms are influencing the way people think about the world, the way they think about each other, and the way they think about themselves, then they’re also influencing the way we talk about women’s rights, the climate, and immigration. If we’re going to fight over those issues, we might as well fight for a healthier arena.”*

7. Based on the above, do you think the designer’s awareness to apply these behavioral ‘vulnerabilities’ for capital gain is ‘unethical’ or ‘exploitative’? Why or why not?

8. If you feel it is unethical, do you think now that you are more aware of designer’s deliberate design decisions, that this knowledge makes you a more informed user and will encourage you to rethink how often you use

your phone? What about the what you use your phone and other media platforms for?

What about attention?

9. How often do you use YouTube, Netflix, Amazon Prime Video, or other streaming devices?

10. When using these devices how often do you allow the autoplay feature, when there is an option to turn it off (like YouTube or Facebook feeds for example)?

11. If you knew this was a deliberate design decision to keep you on the page would that change how you engaged with these mediums?

Regarding 'legal cases' in the media involving Facebook, Google, and other new technology:

- How much do you know about the Cambridge Analytica breach?
- How much do you 'care'?
- What do you feel is the greatest concern about technology, data, and privacy today?
- How often do you think about these things in your daily life to the degree that it compromises your productivity, quality of life, and/or well being?
- When you engage with a new piece of technology (digital device, mobile device, application, website, platform, etc.) do you fully read the privacy and terms provided? If you did read them, how fully do you feel you understood what you were agreeing to on a scale of 1 to 10. 10 being the highest level of understanding.

Thank you so much for participating in this interview! If you have any further comments, questions or concerns please note them below. Have a great day!

A2. Coded Interview Transcripts

http://stevescollection.weebly.com/uploads/1/3/8/6/13866629/saldana_2009_the-coding-manual-for-qualitative-researchers.pdf Saldana 2009

- But if your goal is to develop a new theory about a phenomenon or process, then classic or re-envisioned grounded theory and its accompanying coding methods - In Vivo, Process, Focused, Axial, and Theoretical Coding - are your recommended but not required options.

"...A *value* is the importance we attribute to oneself, another person, thing or idea." (Saldana 111)

"...An *attitude* is the way we think and feel about ourselves, another person, thing, or idea." (Saldana 111)

"...A *belief* is part of a system that includes our values and attitudes, plus our personal knowledge, experiences, opinions, prejudices, morals, and other interpretive perceptions of the social world." (Saldana 111)

Participant 1: USA

Column 1: Raw Data	Column 2: Preliminary Codes	Column 3: Final Code	Comments
"Morals and principles that determine character and	"Morals and principals"	V: MORALS AND PRINCIPLES	

behavior."	"Character and behavior"		
"Ethics are important as I value my right to privacy while using digital media and my mobile devices. As technology rapidly changes the lack of regulation of digital media/mobile devices has increased deceptive practices and invasion of privacy."	"Important" "Right to privacy" "Lack of regulation" "Increased deceptive practices"	V: RIGHT TO PRIVACY B: LACK OF REGULATION A: MISTRUST	
"I estimate my mobile phone or tablet use an average of 3 hours per day. I feel an impulse to check my digital devices at least every 15 - 30 minutes."	"I feel an impulse to check"	A: IMPULSE	Quantitative: 3hrs/day Check ever 15-30mins
"Feeling a need to be 'connected' does cause me to be distracted at times and sometimes disrupts my ability to prioritize tasks."	"Feeling a need" "Distracted" "Disrupts my ability" "Prioritize tasks"	A: NEED A: DISTRACTED	
"It is, in my view, extremely unethical. I see it as a form of psychological manipulation for capital gain."	"Extremely unethical" "In my view" "Psychological manipulation" "Capital gain"	B: UNETHICAL A: MANIPULATION	
"I do not feel I will change the amount of time spent using my mobile phone. I feel mobile phones have become a necessity so until there is what i feel is adequate regulation I will continue to use extreme caution with an understanding that I am still vulnerable."	"I feel mobiles phones have become a necessity" "Adequate regulation" "Extreme caution" "I am still vulnerable"	A: NEED B: REGULATION A: CAUTION A: VULNERABLE	
Q11	"Truly interested in"		

“I do care and hope that regulation of some kind comes as a result of the findings.”	“Care and hope” “Comes as a result of the findings”	A: FEELING B: ACTION/RESPONSIBILITY OF HIGHER STRUCTURE	
“Invasion of privacy and access to personal information by almost anyone.”	“Invasion of privacy” “Access to personal information” “By almost anyone”	V: INVASION OF PRIVACY B: ACCESS/PRIVACY	
“I believe I think about these things every time I use one of my personal digital devices or mobile phone.”	“I believe” “Every time [I use one of my personal devices]”	A/B: SELF RESPONSIBILITY A/B: AGENCY A/B: SELF REGULATION	
“I do at least skim the entire privacy and terms provided with an understanding level of 8. I will however admit Ito times when I have disregarded a statement or two in the terms for the sake of using the technology.”	“Skim” “Entire privacy and terms provided” “Understanding level of 8” “Disregarded a statement or two” “For the sake of using technology”	A: RESPONSIBILITY V: RIGHT TO PRIVACY V: BENEFITS OF TECHNOLOGY	

Participant 2: USA

Column 1: Raw Data	Column 2: Preliminary Codes	Column 3: Final Code	Comments
What someone views as moral	“Someone” “moral”	V: MORAL A: OTHERS	
Somewhat important as long as those devices do not violate my privacy.	“Violate” “My privacy”	V: VIOLATION V: PRIVACY	
50x an hour per day, on a 12-16hr day. I feel the impulse to check it probably 5x an hour, without actually checking it.	“I feel the impulse” “Without actually checking it”	A/B: AGENCY AND IMPULSE	Quantitative: 50x per day on a 12-16hr day 5x per hour

Yes, the likelihood of being pulled into different directions, conversations and tasks increases more due to being so connected.	“Pulled into different directions, conversations and tasks”	A/B: AGENCY AND IMPULSE	
My work requires that I engage with a mobile device to check and respond to email, texts or answer calls.	“My work requires”	V: WORK	
Yes, I'm guilty of pulling down on my screen to refresh my inbox notifications for more emails knowing that there's a good chance nothing new (or something that I'm expecting) will arrive. Same with social media.	“I’m guilty” “There’s a good chance nothing new will arrive” “Social media”	A: FEELINGS B: MOTIVES	
I don't believe this is unethical - The need for instant gratification is a choice. The ability to refresh is convenient when you are looking for something in particular and it does arrive after refreshing for instance.	“Don’t believe this is unethical” “The need for instant gratification is a choice” “Convenient” “Looking for something in particular” “It does arrive”	A: ATTITUDE A/B: AGENCY V: CONVENIENCE A: SATISFACTION	
I turn off YouTube's autoplay feature because their autoplay suggestions are terrible. Netflix or prime video I allow to autoplay.	“I turn off” “Suggestions are terrible” “I allow”	A: TERRIBLE A: AGENCY V: CONVENIENCE & CHOICE	
I'm aware that it is and it does not affect the way I engage with those platforms.	“I’m aware” “It does not affect the way I engage”	A: AWARE A: AGENCY	
That important information gets leaked without our knowledge to unknown companies.	“Important information gets leaked” “Without our knowledge” “Unknown companies”	V: PRIVACY V: UNKNOWN AGENTS	

I don't think about it enough for it to compromise my productivity or well being	“I don’t think about it” “Compromise” “Productivity” “Well being”	V: PRODUCTIVITY B: WELL BEING	
- It depends on the "new piece of technology" and what I'll be using it for.	“It depends”	A: CHOICE	

Participant 3: France

Column 1: Raw Data	Column 2: Preliminary Codes	Column 3: Final Code	Comments
“Ethics is behavior that tends to be benevolent towards others. To act in a way that our actions neither disturb people nor touch to their integrity. Finally, this respect must be pursued without having to be cross-checked.”	“Benevolent towards others” “Act” “Our actions” “Disturb” “Disturb people” “Integrity” “Respect”	V: EXPECTATION OF OTHERS V: EXPECTATIONS OF BEHAVIOR A: INTERRUPTED PEACE V: RESPECT	
Any services (digital or not) should be only a suggestion or option of activities and or services. A service should never trick the users with hidden nudge.	“Should be” “Suggestion or option” “Should never trick” “Hidden nudge”	B: OPTIONS AND CHOICE V: DECEPTION V: TRANSPARENCY	
I think that here, we have to consider 2 types of use : professional and personal. Prof. is usually never checked Personal is checked on random basis based on the life events (taxes, travels, expectation of news…)	“Professional and personal” “Professional is usually never” “Random basis”	A: RANDOM	
Yes, definitely. Once I have understood this point, I decided to set my phone on mute. This behavior allows me to not be distracted from my tasks	“Definitely” “I decided to set” “Mute” “Behavior” “Distracted”	A: DECISION A: DISTRACTION	
Almost never but to find my colleague	“Never”		

at the cantine/cafeteria	“To find”		
Q.6 Each single action which is not profitable or made with the purpose of improving yourself or your wealth (wealth can be acknowledged as health, money, well being, faith..) is an action that wastes your time.	“Profitable” “Purpose” “Improving yourself” “Your wealth” “An action” “Wastes your time”	B: SELF IMPROVEMENT B: WEALTH V: PURPOSE V: PROFIT V: TIME	
Q.7 Yes they are. People should be challenged to accomplish things or being creative, not to become vegetables. Of course, the creativity of these designers is interesting but ethics should prevent using /ban immoral actions (i.e. things that are made without the consciousness of the user in our case) from application once proved to work (before on can still consider that as “research or creativity” [sic]	“People should be challenged” “Being creative” “Not to become” “Creativity of these designers” “Ethics should prevent” “Ban” “immoral actions” “Consciousness of the user” “Without” “Proved to work”	B: CHALLENGES V: MORALS A: AWARENESS	
Q.8 “Using an app for the services that it provides is different than using an app due to boredness. With this in mind, we can expect that the first group will stop its use of smartphones once the objective/action is complete (such as ordering a pizza)”	“Boredness” “We can expect” “Stop its use”	A: EXPECTATIONS A: BORED V: AGENCY	
Q.9 “I use Youtube as a recreational platform, usually to have a light break. I also get bored quickly while watching video and so, I focus back myself on a productive task, project or activity”	“Recreational platform” “Light break” “Bored quickly” “Focus” “Productive task, project or activity”	V: RECREATION V: FREE TIME V: PRODUCTIVITY	
Q.10 “Nope, to prevent to have the advertisements”	“To prevent”	PREVENT	
Q. 11 “I think anyone who watches Youtube is aware of this fact since the recommendations have been	“Aware of this fact” “Does not make	AWARENESS AGENCY CONTROL	

introduced. However that option does not make me stay longer. Therefore I think the smartest button is "add to watch it later".	me stay longer" "Smartest button is 'add to watch it later'"		
12b. Not really as it does not prevent me to live as I want so far and even, these media allow me to discover new things (such as bee keeping)	"Does not prevent me to live as I want" "These media allow me to discover new things" "Bee keeping"	AGENCY SELF-IMPROVEMENT CHOICE	
12c. The benefits are not shared	"Benefits are not shared"	V: SHARED BENEFITS	
Q14. Never read it as I expect to be fooled since the beginning. So it matters more to me to know if I accept to be fooled by the data that I could discover there.	"I expect to be fooled" "I accept to be fooled	A: DECEPTION A: ACCEPTANCE	

Participant 4: Canada and UK

Column 1: Raw Data	Column 2: Preliminary Codes	Column 3: Final Code	Comments
What is morally right and wrong.	"Morally right and wrong"	MORALS	
Somewhat important.	"somewhat"		
Sometimes yes, can be distracting at work.	"Sometimes" "Distracting"	A: DISTRACTION	
A few times an hour during the day.			
Q7. No, think it's just part of the marketing. Users are making the conscious decision to engage in this behaviour.	"Marketing" Making the conscious decision" "Engage in this behaviour"	A: CONSCIOUS CHOICES A: ENGAGE B: MARKET	
Q8.Would be beneficial to know but don't think I would seek it out.	"Beneficial to know" "Seek it out"	B: TRANSPARENCY A: AGENCY	

Q11. Maybe yes.			
12a. A good amount. 12b. Moderate amount.	“moderate”	A	
12c. Having my private details shared	“Private details shared”	V: PRIVACY	
7			

Participant 5: Greece

Column 1: Raw Data	Column 2: Preliminary Codes	Column 3: Final Code	Comments
I would say that ethics define behaviors that comply with principles that are morally good	“Ethics define” “Behaviors that comply with principles” “Morally good”	V: MORALLY GOOD V: PRINCIPLES	
I consider them very important as they define something I do everyday	“Very important” “Define” “Something I do” “Everyday”	A: IMPORTANT	
I use my phone very frequently. I think I check it around once every 5 minutes. I also use my computer everyday.	“Very frequently”		Quantitative: every 5 minutes
No. On the contrary, I think that my personal device helps me do every big or little thing that I want every day. From communicating with friends etc to arranging my daily schedule in detail through calendars, reminders etc. So overall it helps me prioritize my tasks.	“Helps me do every big or little thing that I want every day” “Over it helps me prioritize my tasks”	B: HELPFUL	
I use my mobile device every day to perform my daily work duties. It is like my personal helper-planner and I could not imagine doing it easier in any other way.	“Every day” “Perform my daily work duties” “My personal helper-planner” “I could not imagine doing it easier in any other way”	A: AGENCY A: DEPENDENCY V: CONVENIENCE	
Personally, I think social media platforms like Facebook and	“Make me waste time	A: SUBCONSCIOUS V: FREE TIME	

Instagram, sometimes make me **waste time subconsciously**. When I have free time, I usually intend to quickly take a look and I end up spending one hour scrolling without any specific reason.	subconsciously" "When I have free time" - to have free time "I usually intend to quickly take a look and I end up spending one hour scrolling" "Without any specific reason"	A: INTENTION A: CONSENT	
I think it is exploitative if we think that these types of designers try to use and control people's attention however they think it would be best for capital gain and this is unethical.	"If we think that these types of designers try to use and control people's attention" "They think it would be best for capital gain and this is unethical"	B: CONTROL A: AGENCY V: ETHICS/UNETHICAL V: MOTIVES	
Yes. I now think that I am more aware of this situation and that will absolutely make me think again before I waste my time for things that are not too important.	"I am more aware of this situation" "That will absolutely make me think again before I waste my time" "Things that are not too important"	V: AWARENESS A: ACTION V: TIME	
I use YouTube and Netflix almost everyda [sic] for listening to music and watching TV series.	"Everyday"		
I tend to allow autoplay on Netflix when I want to continue watching the next episode. Same with YouTube for music.	"Tend to allow autoplay on Netflix"	A: AGENCY	
It depends on the content of the page and if I was truly interested in seeing what's in it. If I was, then I would ignore it.	"It depends on the content" "Truly interested" "Ignore it"	A: AGENCY B: LEVEL OF INTEREST	
12a. A few basic things 12b. Not a lot			
For me the greatest concern is the protection and privacy of personal data in the digital	"Protection and privacy of personal data"	V: PRIVACY V: PROTECTION V: PERSONAL DATA	

environment.			
I think about these things whenever something serious happens like the Cambridge Analytica breach.	“Whenever something serious happens”	B: EVENT	
I never read them	“never”	A: AGENCY A: AWARENESS	

Participant 6: USA

Column 1: Raw Data	Column 2: Preliminary Codes	Column 3: Final Code	Comments
Moral principles that govern one’s behavior.	“Moral principles” “Govern” “Behavior”	V: MORALS & PRINCIPLES A: GOVERN A: BEHAVIOR	
Important, I do not want my personal information for inappropriate use.	“Important” “I do not want my personal information” “Inappropriate use”	A: DO NOT WANT V: PERSONAL INFORMATION B: APPROPRIATE USE	
All day, less during work hours but constantly ‘checking updates’, the compulsion is there!	“Less during work hours” “Constantly ‘checking updates’ “Compulsion is there”	V: WORK HOURS VS FREE TIME A: AGENCY (lack of)	
Absolutely, I try not to look at my phone during important work hours.	“Absolutely” “I try not to” “Important work hours”	V: WORK	
Not at all.			
Personally, I refresh because I actually want to see what is new and has popped up, I don’t do it out of impulse (not yet, anyway)	“Personally” “Actually want to see what is new” “I don’t do it out of impulse”	A: DESIRE FOR NOVELTY A: IMPULSE A: SELF POSSESSED	
Yes, of course it is	“Of course”	B: MOTIVATIONS	

designed purely for capital gain and although sometimes not intentional, it can become unethical and exploitative.	“Designed purely for capital gain” “Can become unethical and exploitative”	V: ETHICS V: TRANSPARENCY	
I am aware but it does not change the percentage I spend on my phone, I just try to stay clear from ads that are unnecessary to me or comments/platforms I do not agree with.	“I am aware” “But” “Does not change the percentage I spend on my phone” “To stay clear from ads that are unnecessary to me” “comments/platforms I do not agree with”	A: AWARENESS A: AGENCY B: NECESSITY B: AGREEMENT/DISAGREMENT	
YouTube very often, usually just for music.	“Very often” “Usually” “Just for music”	A: CONVENIENCE	
Sometimes I try it to see if YouTube can figure out what I like but mostly I select my own music.	“Sometimes” “If YouTube can figure out what I like”	V: CONVENIENCE A: CURIOSITY	
No, I already figured out the intent!	“I already figured out”	B: AWARENESS	
Not a lot.			
Obviously not much if I don’t know anything about it.	“I don’t know anything about it”	V: AWARENESS	
My greatest concern is the ability for hate groups to spread their hate and the ability for predators to lure children/human trafficking to be more accessible.	“Greatest concern” “Ability for hate groups to spread their hate” “Ability for predators to lure”	V: HATE/AGENDA V: NEGATIVE USAGES	
Not a lot.			

Truthfully, I hardly bother reading them.	"Truthfully" "Hardly bother"	A: UNNECESSARY	

B. Survey Questions:

Q1. *How often do you rely on Yelp, Google Maps, FourSquare or other location/spot-finding*
services to discover new places to visit?

Q2. If you do use these services, how often do you ask yourself if there are other places to go not suggested by these options?

Q3.*The average person checks their phone 150 times a day. How often would you say you check your phone per day? (approximately)*

Q4. *Remember the last time you checked your email. When you refreshed the inbox, were you looking for a particular email? If so,was this email one you were looking forward to?*

Q5. *If you took a wild guess, how many emails do you think you are currently subscribed to?*

Q6. *If you are not satisfied by this amount, what would be your main reason for not actively unsubscribing to these emails? (you may choose as many as you feel apply)*

Q7. *How often do you think you check social media sites to see what others (acquaintances, friends, family, etc.) are doing?*

Q8. *When you visit social media sites (Facebook, Instagram, Twitter, SnapChat, etc.) how often do you visit for one reason and remain on the site for entirely different reasons than you began?*

Q9. *Please select all that apply. On your current mobile messaging service:*

Q10. *Lastly, if you were to discover that all of the app/device/platform usage 'habits' you've developed were in fact by deliberate design to 'hijack' your time and attention - would you be more conscious of how you spent time on your phone?*

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D. Exclusded notes:
http://humanetech.com/problem

Centre for Human Technology, "Our society is being hijacked by technology"
"What began as a race to monetize our attention is now eroding the pillars of our society: mental health, democracy, social relationships, and our children"
"Unfortunately, what's best for capturing our attention isn't best for our well being: Snapchat turns conversations into streaks, redefining how our children measure friendship; Instagram glorifies the picture-perfect life, eroding our self worth; Facebook segregates us into echo chambers, fragmenting our community; YouTube autoplays the next video within seconds, even if it eats into our sleep."

"Four reasons why it's different this time" **"Four distinct forces make today different from anything in the past, including TV, radio, and computers: artificially intelligent, 24/7 Influence, Social Control, Personalized"**
"Unfortunately, these automatic algorithms are easily gamed to manipulate society at a massive scale, because platforms lack the capacity to reliably check for conspiracies, lies, and fake users."

v. Harris/the website asks How instead of Why/What
    1. "Humane Design starts by understanding our most vulnerable human instincts so we can design compassionately to protect them from being abused…"
    2. "We are creating humane design standards, policy, and business models that more deeply align with our humanity and how we want to live."

1. **https://sloanreview.mit.edu/article/tech-savvy-exploring-the-ethical-limits-of-app-design/** "Exploring the Ethical Limits of App Design" Theodore Kinni, June 02 2016 MIT Sloan Management Review

i. Primarily focusing on productivity in the workplace
ii. "Are your employee apps ethical? Companies are providing employees with more and more digital services for purposes that range from enhancing teamwork to getting a better night's sleep. But do they promote agency -- or addiction?"
iii. "...they employ to create a compelling user experience."
iv. "Harris, who studied under Professor BJ Fogg in Stanford's **Persuasive Technology Lab**, is talking about big social media services offered to the general public by companies, such as Facebook, Instagram, TripAdvisor, and NYTimes.com..."

https://www.wired.com/story/its-time-for-innovators-to-take-responsibility-for-their-creations/ "It's Time for Innovators to Take Responsibility for Their Creations" Susan Wu -- opinion piece

a. "It's crystal clear that Silicon Valley's chief executives are no longer merely startup founders, product creators, and business executives. They're societal leaders too, oligarchs shaping the very nature of our identities, communications, and relationships."
b. "Today, racking up a stratospheric market valuation without significant consideration of the product or company's broader societal impact is reckless and irresponsible."
c. "...innovators must consider the massive ripple effects of their creations as part of their imperative."
d. "Genuine innovation isn't just about making technological advances, but also about reimagining and understanding structural issues underlying society."
e. "...job displacement, fracturing of neighborhoods, addictive behaviors, compounding isolation, fortifying tribalism, and widening income equality, to name a few."
f. Wu takes a more eutopic perspective, taking a more socio-economic angle to solving the inequalities of those who are deciding designs which make us more dependent and the owners wallets more large.
g. "Look, for instance, at the most likely probability that men hold well over 90 percent of the asset value of today's techno-darling bitcoin, the latest example of merely shifting power from one group of privileged men to another."
h. "Perhaps it's time for an updated version of Maslow's hierarchy of needs...Startups and management executives universally invoke this theory as an accepted canon for framing the human problems they're trying to solve."

i. “A revised design focused on a thriving civilization would have at its root empathy and ethics, and acknowledge that if inequality continues to grow at its current pace, societal well-being becomes impossible to achieve.”
ii. “The very idea of what it means to be human is changing -- and we who are leaders in technology are aiding and abetting that change.”
iii.