Digital Norms and Their Place in a Tech-Based Future

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Abstract – One impact of the technological revolution has been technology’s effects on social norms and the nudges needed to ensure efficiency and security in today’s “digitally required” world. I define these phenomena as digital norms and they inform interpersonal contact and tech-based choices. This paper looks specifically at norm interactions between Generation X and Generation Z. To test these digital norms and gauge their presence in both generations, this paper outlines a survey experiment of 50 people (25 Gen X and 25 Gen Z) and seeks to extrapolate assumptions on technology while providing policy recommendations. What was found was that civil liberty and morality expectations roll over into the expectations within digital norms. Thus, digital norms, and how we choose to interact with them, can be viewed as a themed social norm which abides by much of the same rules outlined by behavioral economics. They serve as the fundamental underpinning to how technological innovation gets perpetuated and ultimately how tech will facilitate future societal interaction.

Keywords – Digital Norms, Technology, Generation X, Generation Z

Introduction

For those alive today, perhaps the biggest contribution to society in this lifetime has been the advent of digital technology and the realities that it has made possible. From computers, to cellphones, to social media and everything in between, digital technology has arguably made the greatest impact on the way people live life since the Industrial Revolution of the early 1800s. While the impact of technology itself has certainly been the driving force providing the most change, a side effect of this new addition to societal interactions has been technology’s effect on social norms and the nudges required to ensure efficiency and security in today’s “digitally required” world. These phenomena are what I like to call digital norms and they inform how interpersonal contact and tech-based choices are conducted. While digital norms vary across society, this paper will look specifically at norm interactions.
between Generation X and Generation Z, the generation with currently the largest buying power and the generation that will become the designers and visionaries of tech’s future in the coming decade, respectively. In the following section, a detailed exploration of these generations will be discussed along with its classifications; however, I argue that currently, these two groups will have the biggest effect on how technology will look and interact in the coming decades. The field of behavioral economics has seen many laboratory experiments on norms in the form of dictator games and other game theory models. Yet, I wanted to take this a step further and see how norms affect the tech world by those who use it: us. This research is significant because generational norms have the incredible power to sway policy and development. Furthermore, technological advancement is determined by the needs of consumers. By determining respective digital social norms, advancements can be tailored to the needs of society. Such tangible examples include smart cities, digital workplaces, better virtual learning environments and more efficient point-of-sale, among other things. By understanding the digital norms today, we can have a better understanding for a more efficient technological tomorrow. To test these digital norms and gauge their presence in both generations, this paper outlines a survey experiment of 50 people (25 Gen X and 25 Gen Z) and seeks to extrapolate assumptions on technology and its use. From there, an analysis will be made along with how the COVID-19 crisis has played an altering role in this experiment in what I like to call “The COVID-19 Effect.” Lastly, various policy prescriptions and implications will be made based on this data and assumptions. It is with this that I hope society can be clearer on just what technology actually means to people and how each of us is intrinsically affected by the benefits (or to some, the negatives) it provides.

Outlining Generational Differences

Simply defined, generations are a set period of time to which people born during this duration collectively belong to. Generations are typically shaped by multiple milestone factors such as wars, political movements or innovations. Because of these defining factors, each generation is markedly different than the other based upon their own zeitgeist. This paper will be looking specifically at Generation X, which is designated as the cohort between 1965-1979, and Generation Z which includes those born between 1997-2015. For digital norms, these are the two most interesting and important generations to study due to their buying power and technological idealism, respectively. To get a better understanding of these generations, it is crucial to know their defining characteristics and unique traits.

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1 Kasasa, *Boomers, Gen X, Gen Y, and Gen Z Explained* (Kasasa, 2020)
Generation X are the children of the Silent Generation and the Baby Boomers. Having come of age during the late 60s and 70s, they are the product of an economic boom and middle-class prosperity. Because of this, their personalities tend to be idealistic and place great value on experiences. Yet most importantly, they are digital pioneers, having experienced later in their life the early stages of technology and some even contributing to its development. Generation Z are today’s college and grade school individuals and the children of Generation X. Having grown up during a recession, members of this generation tend to be more pragmatic and focused on saving money for the uncertain future. But unlike any other generation, Gen Z are digital natives having grown up in the midst of the proliferation of digital technology and the internet. Because of this, many Gen Zers do not know a life before the cell phone or before Google; tech is a part of who they are. While these generations have facets that make them both similar yet different, a facet of particular interest is their manifestation of digital norms, how these norms developed over time and how they compare. From these observations, tech policy can be intelligently designed and future technological advancements can be made to best cater to the world’s citizenry.

**Literature Review**

In order to provide some basis for generational studies and this experiment on digital norms, a literature review was conducted on six other similar works. Despite no study existing specifically on digital norms between Generation X and Z, or even substantial work on comparing Generation X and Z, much of the studies reviewed involved generational or digital norm work at large. The first work consulted was entitled “Working With Generations X And Y In Generation Z Period: Management Of Different Generations In Business Life” authored by Sezin Berkup. This work explicates the validity of the term “generation,” especially as it is used in the 20th and 21st centuries and served as a foundation for my research. It further goes on to argue that much of human behavior can be ascertained by correctly understanding generational differences and that this is most salient in Gen X, Y and Z due to their clear delineation from the vastly different social events that molded them. The main portion of the work highlights how these aforementioned differences play a role in modern business due to the social norms that are indicative to each age group. In the work “Managing Our Future: The Generation X Factor” by Gary O’Bannon, the author looks specifically at Generation X and its defining characteristics. The paper argues that Generation X made great strides to differentiate itself from its Baby

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Boomer predecessor due to their inherent trait of wanting to be unique. As a result, Xers are seen to have reaffirmed America’s individualistic spirit and “can do” mentality. These findings are especially relevant to my research as it may explain Gen X’s conscious desire to reject the assistance of technology and rely solely on their own skills.4 “Generation ‘X’ and the boomers: an analysis of realities and myths” by Steven Appelbaum goes more in-depth on the behaviors of Gen X. The author finds that, on balance, Xers are more productive, more motivated, easily trainable and exhibit higher job satisfaction levels than other generations. Hence, Xers thrive in situations where they are left on their own to solve problems. These findings will provide context to this paper’s work on the motivations, desires and ethos of Generation X when applying this mentality to technology and digital norms.5 The fourth paper reviewed entitled “Generation Z: Technology and Social Interest” by Anthony Turner looks solely at Gen Z and its relationship with technology. In this work, Turner argues that Zers are raised with technology in their lives and due to this, share a disconnect with their parents (Gen X). This, in turn, influences social interests and portrays this generation as more reliant on technological aids (spellcheck was used as an example). Turner’s work is informative to my research not only because of its relevance to Gen Z, but because of the itemization of the specific technological aids that Zers have become dependent on.6 Another paper on Gen Z that I consulted was “Generation Z as Consumers: Trends and Innovation” authored by Stacy Wood. In this highly informative and researched work, Wood sets out four key attributes of Gen Z: innovation, conscience, security and escapism. She then goes on to link how these traits relate to each other and help define a truly unique generation. All four of the traits Wood advances are traits that have significance to digital norms as they aid in their formation and secure their retention. This research is helpful when experimental responses show such a link.7 Lastly, the paper “Generational Differences and the Integration of Technology in Learning, Instruction, and Performance” authored by Eun jung Oh and Thomas C. Reeves advance how Generation X and Z fair when encountering technology in the learning process. They posit that Gen X learners do not absorb material in the same way Gen Z does, especially in the presence of tech learning solutions. Therefore, a blanket solution cannot be equally applied and when technology is used in instruction for other generations, incorporating their learning styles is critical. This work will prove valuable in my research as it shows how new skills are learned between these two generations, an

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6 Anthony Turner, Generation Z: Technology and Social Interest (The Journal of Individual Psychology, 2015) 103-113
7 Stacy Wood, Generation Z as Consumers: Trends and Innovation (Institute for Emerging Issues)
important phenomenon when observing the adoption of digital norms. All of the aforementioned papers help guide the research and predictions of this paper while also aiding in the following experimental design.

**Research Design**

In order to ascertain the digital norms present between Generation X and Generation Z given the experimental constraints of the semester as well as the COVID-19 crisis, the approach that was ultimately decided on was qualitative in nature and consisted of a 15 question Google Forms survey. The questions were binary (yes/no; true/false; agree/disagree) in order to clearly determine preference, but in addition to the question existed an optional short text response box underneath that allowed the participant to explain why he/she answered the way they did. This addition provided context to their answer while still giving the experiment a binary result to work with. In terms of the attitude of the questions, each one was either technology positive (advocating for tech, digital policy, etc.) or technology negative (against the former). Of the 15 questions asked, they were divided equally into three sections (five per sections) which corresponded to three topical areas of digital norm research interest: Behavior, Sentiment and Expectations. It is important to note that these distinctions were not known to the survey participants and the question order was randomized. In the Behavior Section, the five constituent questions aimed to discern the participant’s actions, either physical or mental, involving technology. This identifies the outward and visible digital norms of the individual. For example, one question read, “After a certain hour at night, I typically try to reduce my technology use to little or none.” Here, information is gained in how one interacts with technology. In the Sentiment Section, the following questions served as insight on the preconceived feelings and opinion for technology. These answers illuminate more of the private digital norms held by the participant that may or may not be acted on publicly. “Cashless-only establishments are beneficial” is an example of one of the questions of this section, gauging opinion of this rapidly adopted norm in the retail sector. Lastly, the Expectations Section sought to determine the participant’s outlook on digital norms currently and the proliferation of technology in the future. These are the individual’s hopes, or reservations, about technology and the impact it will have on themselves and society. The question, “Artificial Intelligence has a better chance at solving worldwide problems than humans alone” is an example of a question in this section, providing insight into how one perceives the true benefits of tech and digital norms. These questions in the Google Form were then circulated digitally via social

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8 Eunjung Oh and Thomas C. Reeves, *Generational Differences and the Integration of Technology in Learning, Instruction, and Performance* (Handbook of Research on Educational Communications and Technology, 2013) 819–828
media and instant messaging platforms. Understanding this would disproportionally target Generation Z, I asked for the Generation Z survey participant to then share it with their parents who likely would be a part of Generation X, as we have discussed earlier, thus testing both generations in a fairly consistent manner. As a fail-safe, I included a “limiter” question on the form asking if they were between the ages of the proscribed generational delineation, which I provided them, in order to control against other demographics. If they did not meet the generational criteria, the questionnaire responses were shelved. After a little over 50 respondents, I ensured that I had 25 Gen X and 25 Gen Z answer profiles and then closed the survey portion of the experiment. Answers, both binary and short responses, were then tabulated generationally side by side and examined for the data analysis portion of the experiment.

**Theoretical Prediction/Testable Hypotheses**

After the research design was completed and concurrent to the survey being released, theoretical predictions were made about the generational differences of digital norms between Gen X and Gen Z based off of the three aforementioned topical areas of Behavior, Sentiment and Expectations. These qualitative predictions serve as the status quo interpretation of digital norms between these two generations before experimentation. When looking at Behavior, predictions were made based off of the respective traits of idealism and pragmatism along with being digital pioneers and natives. With this in mind, because of their upbringing, it was predicted that tech-focused behavior would be most prominent in Gen Z. This means that social media adoption, general digital wherewithal and other technological traits would come as second nature with little to no learning curve. As a result of Gen X not growing up with it, members of this cohort wouldn’t be beholden to tech and wouldn’t exhibit behaviors such as checking one’s phone every other minute or feel compelled to post their daily activities to social media. Because of their familiarity, Gen Z is more apt to blend tech with everyday activities while Gen X prefers to keep them separate. For example, I would hypothesize that Gen Zers would prefer to listen to Spotify while mowing the lawn while Gen Xers would prefer to mow the lawn in silence and then listen to music on the stereo afterwards to unwind. The Sentiment category revolves around how each respective generation feels about technology in their lives. Predictions here were based upon each generation’s temperament toward current iterations of tech or tech proposals. As an on-balance sentiment, Gen X would prefer “analog” implementations (i.e. physical books, cash, CDs/Radio/Broadcast TV,

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handwriting notes, etc.) when possible. Alternatively, Gen Z would be more apt to adopt “digital” alternatives (i.e. eBooks, NFC payment, streaming services, typing/digitally writing notes, etc.) and be comfortable with moving away from older methods. In terms of investments in tech (both fiscally and metaphorically), an increase would be championed by Gen Z while Gen X would prioritize other sectors. Lastly, the Expectations category aims to determine outlooks on the future of tech and subsequently, digital norms. The predictive model for this topic took into account human nature’s inherent weariness of the unknown. Keeping in mind past historical events during Gen X’s upbringings (Vietnam War, various alternative political movements, etc.), this cohort would be skeptical of a tech-centered society and the positive effects it claims it can bring. On the opposite end of the spectrum, Gen Z would overweigh the benefits of tech and be too reliant on AI and other technological aids, lessening the confidence in human action. And, as an extension of the previously stated predication, those growing up with tech (Gen Z) will grow entangled in it, while others (Gen X and prior) will choose to grow alongside it. These predictions, despite not likely correspond completely with the experiment’s findings, match the general opinion of generational differences involving tech and the digital norms that each cohort espouses.

Data Analysis

Once the Google Form questionnaire reached 50 eligible respondents (25 Gen X/25 Gen Z), the form was closed and the data was tabulated for analysis. The main objective of this analysis was to see how each participant chose to respond, compare this to the aforementioned predictions and draw conclusions on generational digital norms based on the data. To view these results, please view Table 1 at the end of the document. Overall, the results corresponded greatly with expectations and hypotheses, with a few exceptions. For the Behavior category, the norm divide between the generations was most prevalent. On balance, Gen Z was much more positive toward technology and its relative behaviors over Gen X. This shows that Gen Z is much more ingrained with technology while Gen X does not find it to be an absolute necessity. For example, in Question 3, 84% of Gen X felt they did not need to have the latest technology while this result was virtually flipped for Gen Z where 76% responded that they did value having the most up-to-date technology. In one of the short responses (purposely not corrected for spelling or grammar mistakes) from a Gen X member, he/she said “technology is always changing almost every day so why spend money on the latest gadget when it comes out? I wait awhile until I determine I need or want it.” On the contrary, a Gen Z member said “I feel that if I don’t have

11 Samir Saran, New Norms for a Digital Society (ORF, May 7, 2020)
the latest tech, I’m going to be left behind in trends and all that. It’s my money anyway to spend.” Like I predicted, the urgency for tech is not there for Gen X while it is present for Gen Z, leading to an entirely different behavior and value system between the two generations in respect to digital norms. When looking at the Sentiment category, however, we see a situation that deviates from my predictions and shows more commonality than difference. Originally, I predicted that Gen X would generally prefer analogue iterations of items or events while Gen Z would prefer their digital counterpart. However, the data shows that both generations are weary of a fully tech-dependent culture. With the exception of Question 10, the four other questions show similarity. For Question 6, 76% of Gen X and 68% of Gen Z do not feel that cashless only payment methods are beneficial, despite significant investments by card companies and the fact that many phones now how NFC features. Yet I posit that this breakdown is less of a digital norm effect and more of a social norm effect due to the information written by respondents for this question. In the short response to Question 6 by a Gen X respondent, he/she said “Cash is king and can be used anywhere. What if my phone is dead or the credit card machine is broken? Cash should still be allowed.” A Gen Z respondent said “Cashless only establishments are inherently unequal and disproportionally affect minority communities who cannot open a bank account or hold a credit card in their name and no technology is going to fix this on its own. Cash should always be an option for the sake of equality.” While Gen X’s response was expected, Gen Z showed how technology can sometimes lead to inequality, a phenomenon this generation is very keen on equalizing. Therefore, some responses may be driven by social or political factors over digital norms, as the formers are deemed more important. Lastly, the Expectations category yielded a return to the predicted answers of digital norms in respect to expectations between the two generations. For example, in Question 15, only 54% of Gen X believed that technology will become a right in the future while an overwhelming 88% of Gen Z respondents felt confident in their forward-looking answer. This, I argue, stems from Gen X’s “reap what you sow” mentality while Gen Z prefers a more communal and support-based society. I came to this analysis after a Gen X respondent said “nothing besides the constitution should be considered as rights. Everything else is a privilege that you work for and the internet and your new iphone is no different.” A different perspective came from a Gen Zer who said “With technology (especially the internet) becoming integral to our everyday life, it has become a necessity to live a good life as much as education or food. Think about it: without google, so many people would be living in darkness that it is our duty as a world to give people equal access, just like free speech.” This shows me that that civil liberty and morality expectations roll over into the expectations within digital norms. Thus, digital norms, and how we choose to interact with them, can be viewed as a themed social norm which abides by much of the same rules outlined by behavioral economics. Again, while the sample size and randomization of participants was not ideal for such a wide encompassing
experiment, these results both affirm predictions while also raising new points for digital norm consideration.

“The COVID-19 Effect”

When this research topic and experiment design was first created, it was during the normal conditions of status quo ante pandemic. The questions were created to test these predictions and hypotheses based on both generation’s understanding of technology. Then, in March of 2020, the world faced an unprecedented crisis of unimaginable proportion by the means of COVID-19, sparking a worldwide pandemic that completely forged a “new normal” for so many people around the world. This new normal consisted of the rapid, and sometimes ill-fitted, adoption of digital technologies to close the gap between stay-at-home orders and normal operations. From telepresence solutions to digital learning platforms, these technologies were forced upon people whether they were willing to adapt or not. In this section, I seek to compare the pre and current/post COVID feelings toward technology, how this new normal has added a further layer of digital norms and how this powerful force could have skewed pure generational differences as the data was collected (due to timeframe) during the peak of COVID activity. This phenomenon on digital norms (and other facets of life) is what I like to call “the COVID-19 Effect.” In the pre-COVID condition, much of the aforementioned predictions and hypotheses hold true generally to all generations, with some more than others. Most notably, this consists of the undervaluing of digital learning platforms and the underutilization of teleconference and telework software. These solutions, although useable, were seen to be ineffective and a “last resort” to traditional classroom and work settings, respectively. In extension to this, in-person labor was preferred and prioritized such as having a friendly cashier scan your order or having waiting staff serve your table at restaurants. There was also the preference to use physical items (like textbooks) over digital content, with the latter being considered second-rate alternatives. This ideology also included the use of cash over credit card, or at least for younger generations, the possession of at least some paper cash for emergencies.

However, in the current/post COVID condition, we see discrepancies negating these predictions that cannot be explained simply by digital norm preferences of generations. Rather, I argue that the powerful effects of this pandemic (and other crises of such proportion) have the ability to override these generational preferences, as seen to an extent in the data analysis section (and especially in the written comments), in order to assemble the illusion of life as normal. In comparison to the points made earlier, society has seen the rapid expansion and proliferation of platforms like Coursera, EdX and Canvas and the widescale adoption of virtual office solutions such as Microsoft Teams, Slack, Asana and Zoom. Albeit not preferred to
in-person contact, many people appreciate these tech-based solutions in order for the educational and work world to continue on in contrast to the alternative which would have been disconnected solitude. Here, tech becomes the “middle” and logical option which leads to its possible codification as a digital norm of acceptance in the future, fully dependent on how drastic COVID’s long-term effects are. As a result of COVID, there is also a greater push toward automation of “non-essential” job positions, such as self-checkout kiosks and online/mobile restaurant ordering. Again, while not preferable currently, they are the best option to avoid illness for all parties and with increased refinement over time, may even become preferred options for all generational cohorts as adaption evolves into normalcy. Lastly, with physical options being off-limits due to possible vectors for the virus, there has been a boom in the creation of more digital-first content like eBooks and the use of credit cards and NFC as primary payment methods, among other things. As people become more comfortable with all of these aforementioned options due to them being the only choice many people have, new digital norms are likely to be developed. While unexpected, COVID-19 has played a substantial role not only in the results of this experiment, but also for the future of what generational digital norms will look like after a new normal is ultimately reached. As a result, the manifestation of digital norms on technology will never be the same.

Policy Prescriptions and Implications of Main Finding

With predictions made, experimental data collected and inferences drawn, this paper will now set out implications of these findings and the subsequent policy prescriptions that should be derived from them. It is, however, important to note again that the number of participants in this survey size was small and is relatively un-randomized due to time and logistical constraints. Hence, further experimentation would be needed for more accurate implications. Yet despite this disclaimer, a great deal of implications can still be made on generational digital norms, especially in light of the COVID-19 crisis. The first of these implications revolve around the general indifferent nature of Generation X toward technology while Generation Z actively advocates for it. Because Gen X would not be affected negatively by the increased proliferation of technology (they can simply opt-out by choosing to buy, say, a book over an eBook), policy should be tailored with Generation Z and further generations in mind. This may mean increased federal and state block grant funding for schools to adopt digital learning techniques or tax incentives for large companies to migrate to an increased telework presence. Legislation could possibly be written to ensure job retention if the work could feasibly be done remotely.\(^\text{12}\) In light of an uncertain

\(^{12}\) \textit{Reports - World Economic Forum} (Norms and Values in Digital Media, May 7, 2020)
COVID future, this may even become a necessity in order to prevent further spikes and mitigate the effects of new pathogens. As a side effect of such a proscription, there would also need to be increased scrutiny on cybersecurity and the creation of new laws and statutes to protect data in an increasingly tech reliant world. Furthermore, this experiment provides commentary on Artificial Intelligence and its increased use to solve large real-world problems. Surprisingly, and contrary to my predictions, both generations support the increased use of AI in some way, however most notably for the solving of complex, computationally intensive work. With both generations largely dispelled of the myth that “AI will take over the world,” policy can be supported that increases research attention toward this emerging technology. As one Gen X participant replied it in their short response answer, “As long as it is keep [sic] in check, AI can do amazing things like find a cure to cancer or find answers humans weren’t looking for in the first place.” Some respondents of both generations even cited the COVID-19 crisis as a reason for increased attention toward AI for vaccine development. It is hard to discern if this opinion was long standing or arose because of the urgent need for computation currently. Lastly, my findings indicate that these two generations, although outwardly different in their digital norms, believe in the same core principles of when technology should and should not be implemented. Behavior such as using a phone at a group dinner is similar to other distracting activities, like reading a book at a group dinner, and hence these discrepancies between generations may more so be due to principles and social manners than solely digital norms. Instead, the comparison between digital norms is most present in the Sentiment and (to a lesser extent) the Expectations topics where both generations were found to be largely supportive of a tech forward future. Therefore, I find that manners involving tech are a subunit to digital norms and that other behavioral economic phenomena explain much of the discrepancies in the Behavior category.

Conclusion

Understanding digital norms between Generation X and Generation Z is crucial to understanding the technological society that currently exists and will continue to exist in the future. As observed in this paper, generational differences go further than just predicting preferences in music; they serve as the fundamental underpinning to how technological innovation gets perpetuated and ultimately how tech will facilitate societal interaction. This paper also shows that while predictions can approximate digital norm tendencies, there are always hidden dynamos that cause unexpected results and contrary opinions to be developed between these two generations. Some of these mechanisms seen that flow over into digital norm cultivation are moral principles and political leanings. The data collected has proven
some hypotheses and disproven others, sparking the impetus to do even more research and experimentation in the subfield of digital norms. We have also seen how the powerful effects of crisis and tragedy in the form of COVID-19 can alter previously firm outlooks on technology, to an extent in Gen Z but significantly in Gen X. With a global pandemic forcing people of all generations to adapt technology to survive and hopefully thrive, new digital norms are already being developed and I posit will continue to develop even when this situation is long over. Through these results and conclusions, we have drawn conclusions as to policies and implications that would be effective in stimulating technological growth. Some of these concepts include increased block grants in the tech sector and increased focus on AI development from public and private entities. Overall, digital norms will continue to have a profound effect upon the way we live our lives collectively as a society. Through a better understanding of this generational phenomenon, we are one step closer to a more intelligent, advanced and connected future.

References


