The Cloud: How the Cloud Will Change the World of Finance

The Implications of FemTech and its Current Place in Society

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Introduction:

The integration of technology in health care has been a prominent topic of discussion for the past two decades. We have seen innovation in the form of robotic machines assisting in surgery, health apps that can track our heart rate and blood pressure through the interface of a smartphone device, and many other impressive feats. However, it can be argued that one branch of medicine has not been receiving the same type of technological ingenuity that has been helping millions of people: women's healthcare (Corey et al., 2020). For thousands of years, women's healthcare has been overlooked and disregarded and this mindset has been upheld by patriarchal tendencies that are still held even today (Hendl & Jansky, 2021). In 2019 only 4% of the research and development (R&D) organizations' worldwide funding went into research catered specifically toward women's health. (Stefano & Müller, 2021). Because of this neglect of women's health care research, women can be subjected to harmful medical practices and diagnoses that have nothing to do with their actual health issues (Stefano & Müller, 2021).

Recently, there has been a growing movement towards 'Femtech', a term used to describe companies and products that cater to and help women using advanced and modern-day technology and research. Many people believe that if Femtech companies become a substantial force in society, it can lead to countless benefits for women's health care (Hendl & Jansky, 2021), however, others believe that Femtech may be more harmful than helpful (Corbin, 2020). My technical research will attempt to figure out how exactly the Femtech movement will help advance women's health care and what exact technology would be most beneficial. My STS research topic will discuss the rise of Femtech and its current place in society, including the limitations and setbacks involved with the industry. I will use actor-network theory (ANT), a theoretical framework that provides a perspective to observe how inanimate objects such as

technologies affect and shape social and cultural settings (Law, 1992). ANT will help to develop a more holistic view of the contribution that technology can make in the healthcare landscape such as in the Femtech industry.

Technical Topic:

The issue with the term Femtech is that it's vague. People don't know what to expect when looking at technology that is branded as being catered toward women. In this research paper, I will attempt to understand what technologies are centered around this movement and if they are actually working to the benefit of women. In today's society, we use mobile apps for a lot of various activities garnered towards health. For example, there are fitness trackers and healthy eating apps (Ventola, 2014). Only recently though have women's specialized apps started to make headway in the world of technology. In 2013 the first menstrual tracking app was created called Clue which at its most basic level just documented users' monthly periods.

However, Clue had a lot more benefits than what was originally thought. For example, the technology could identify patterns in the symptoms that users had and could predict when the user would get their next period and what symptoms would be accompanied by it (Cheney, 2022). This type of technology was revolutionary because before this app there had been no tool to help track women's menstrual cycles, and now there was something that could be used daily. Over the past 10 years, more and more apps have started to emerge not just documenting things such as menstrual cycles but also more advanced subjects such as contraception, fertility, and pregnancy guides (Corey et al., 2020). Although this recent change has had positive ripples in the healthcare industry, there has been a growing concern about women's privacy issues (Rosas, 2019). Through the rise of these multimillion-dollar apps, there is a massive invasion of privacy

that users are unaware of and the scale at which personal data is being collected raises concerns about who that data is being shared with and where it is going (Lu, 2019).

This technical project will observe the effect of digital applications within women's health care including the benefits and also the privacy issues involved. Smartphone devices are arguably the most used technology by every individual so it only makes sense to look at how this specific technology is affecting the Femtech industry. With my research, I will examine the current applications on the market and see what they specialize in and how exactly they are helping women. I plan to do this by first choosing a few major apps to focus on and then doing a study on how many users each app holds and what feedback they get. By doing this research, I hope to get a firsthand look at how this specific technology is trying to break down barriers in women's health care and what the adverse effects can be. My main goal will be to try to break down the vagueness and uncertainty associated with Femtech apps and discover what exactly Femtech means to women's healthcare.

STS Research Topic:

There is a lot of evidence to show how women are constantly disregarded and dismissed when telling doctors about their pain and symptoms, especially in lower-ranking socioeconomic countries. For breast cancer in India, only 1-8% of patients with breast cancer are given a correct diagnosis in the early stages of the disease (Cheney, 2022). A startup called Niramai Health Analytics (NHA) is trying to combat these numbers by developing a hand-held device that could potentially diagnose breast cancer cases which could be a momentous technology bringing affordable health care (Cheney, 2022). However, their current position for receiving funding and support is facing a lot of obstacles. The current state of the Femtech industry has a lot of potential for success, in fact, analysts estimate that the market will be worth approximately 50

billion by 2025. Even with these impressive numbers, Femtech startups like NHA have an exceedingly difficult time trying to get investments and help from outsiders. In fact, only 3% of digital healthcare deals from 2011 to 2021 catered toward women's healthcare needs (Faubion, 2021). Sources argue that if more capital is put into these technologies, then not only could Femtech help with fertility, menstruation, and breastfeeding, but it can also address chronic disease management specific to women, urinary health, breast healthcare, and many more topics (Wiederhold, 2021).

The reason why these startups are having so much trouble getting venture capitalist funding can be attributed to a multitude of factors. The first and foremost factor is the ever-present taboo around women's health care. Something as simple as social media companies blocking access to women's sexual health ads because they are deemed inappropriate is a major reason why these products are not getting the proper amount of exposure (Cheney, 2022). Many scholars believe that with help from Femtech technologies these statistics can be improved, however, there is a lot of uncertainty and hidden doubts surrounding the industry.

Corbin (2019) argues that the funding for these startups and multimillion-dollar projects comes from the pockets of mainly caucasian men who have little to no experience with what women actually go through and what they need. If a homogenous group of people creates a piece of technology then it will most likely only cater to that specific group and not think to look at other groups of people (Bjørn & Menendez-Blanco, 2019). Many scholars are worried that digital products are reinforcing sexist stereotypes and promoting negative ideals through inaccurate information created by misinformed individuals (Hendl & Jansky, 2021). The study done by Hendl and Jansky showed that many well-known, profitable apps such as Clue defined their main user as a young, white, cisgender, able-bodied woman. Faubion (2019) argues that this

issue goes beyond the lack of inclusive language with another major issue within the Femtech industry being that companies never focus on products that are catered toward aging women. Aging women are often overlooked by the media, digital health apps, and society in general which can be detrimental to their health.

In my research I will attempt to dissect the best method by which Femtech can better the medical community, first starting with changing the social culture and stigma around women's health and then looking at how societal culture and money can affect the darker side of the industry as discussed above. Since there is a lot of evidence that startups aren't receiving the capital they need or receiving capital from destructive sources, I will also look into alternative methods such as crowdsourced technology and raising awareness to the public about the benefits of Femtech products. The best people to help aid my research would be entrepreneurs that have tried to launch startups in order to see what their experience was. By looking at where they may have failed or succeeded, I will be able to get a better understanding of the intricacies of the industry. Also, my research will look at organizations that are trying to launch products such as the local Charlottesville Women in Tech Club (WIT) or the Society of Women's Engineers (SWE).

Conclusion:

The future of Femtech remains up to societies' will to move past their preconceived, outdated notions of women's health care and use the emerging technology for the greater good. My technical report will aim to understand the current technologies on the market in the form of smartphone applications. The market research that will be done on these applications will provide a better insight into how these technologies are actively benefiting women and also how they might be actively harming women's privacy. Privacy issues are a significant factor when

developing health care apps and if current Femtech apps are not being properly regulated then that can lead to a lot of issues down the road. This will then help me go into the process of creating my own app that might help serve the women's healthcare community. Furthermore, my STS research paper will examine the Femtech industry as a whole, including its controversies and damaging characteristics, to see how exactly society will be able to create a supportive and welcoming space for it. Through my research, I hope to provide a more concrete description of why Femtech is not as successful as it should be at this stage and how to change the status quo.

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