

Venture Capital Investment Criteria Impact on Success of Women's Health Products

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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

I never truly understood how great the discrepancy in funding for women's health products versus men's health was until I interned at a Venture Capital firm. During my internship I went on a business trip to Minneapolis to visit medical device companies that the firm was considering for potential investments. Immediately I realized that I was the only woman on the trip, including both employees at our firm and at the companies we visited. Furthermore, I noticed that there was a significant lack of women's health companies being represented in the venture firm's investment portfolio. When I inquired about the gap, I was simply told by venture capitalists that women's health companies are too risky to invest in, and that was the end of the conversation. I wondered if this sentiment was held by all investors, and if so how women's health companies could ever hope to succeed.

There has been a long-standing issue regarding the representation of women when conducting research for pharmaceutical and medical device development, often resulting in the "wrong dose of the wrong drug or selection of the wrong medical device" for women (Spagnolo et al., 2022, p. 1). This is the case for both in the clinical trials and researchers in charge of conducting the trials. Only 30% of researchers worldwide are women (*Women in Science*, 2016). The women's health space is significantly lacking in the fields of medical devices and pharmaceuticals, and the success of new products is heavily impacted by a company's ability to raise funds. Around only 5% of biopharma investments made in 2020 and only 4% of med tech investments from 2011-2021 were in women's health, including women's cancers (*Unlocking Opportunities in Women's Healthcare* | McKinsey, n.d.). Considering that women account for roughly half of the world's population, women's health is severely underfunded. A product that has the potential to save thousands of lives might never come to fruition due to the company's

inability to attract investors. While conducting preliminary research, I noticed a discrepancy between the amount of successful women's health companies and those companies which focused on general health or men's health. Two companies could be using the same technology, but one could be using it in a way that treated women's health issues and therefore fail to reach the market while the other would receive an abundance of funds.

Venture Capital investments totaled about \$9.9 billion in 2021 for medtech, not including biotech or biopharma (*Medtech Scores Its Biggest-Ever Venture Haul*, 2022). Venture Capital investors have the power to dictate which health technologies come to fruition and which never make it to market by investing in what they deem to be valuable (Lehoux et al., 2016). If women's health is deemed insignificant by investors, those women's health companies will struggle severely.

I explore the power of venture firms and the underfunding of women's health companies by using the Actor Network Theory (ANT). First, I establish what Venture Capital is, its influence, and the general criteria used by many Venture Capital firms. Next, I give an overview of the underfunding of women's health compared to men's health, and the bias against women in entrepreneurship. Then, I analyze how the vagueness of the language within the Venture Capital investment criteria allows for venture capitalists' own biases to determine investment decisions, leading to the underfunding of women's health companies. Through this analysis I conclude that investment criteria needs to be modified, specifically with reference to how to evaluate the leadership of companies. By reaffirming biases against female entrepreneurs and further promoting male dominated industries, venture capital investment criteria leads to the underfunding of women's health companies.

Literature Review

Venture capitalists have the power to influence the success of companies. Venture Capital firms first appeared on the scene in the 1940's when Georges Doriot of the Harvard Business School founded a corporation dedicated to raising funds (Hayes, 2023). According to Hayes (2023), Doriot “raised a \$3.58 million fund to invest in companies that commercialized technologies developed during WWII” (para. 7). Over the last 80 years Venture Capital has grown and evolved in new ways to influence a wide variety of industries. Today, Venture Capital can be defined as “a form of private equity and a type of financing that investors provide to startup companies and small businesses that are believed to have long-term growth potential” (Hayes, 2023, para. 1). What differentiates Venture Capital from other forms of investment is that these firms are more likely to invest in riskier propositions that could potentially have high rewards. This method of investing also allows for companies to receive necessary funding that could not be secured through other methods. According to Zider (1998), “Venture Capital fills the void between sources of funds for innovation (chiefly corporations, government bodies, and the entrepreneur’s friends and family) and traditional, lower-cost sources of capital available to ongoing concerns” (para. 9). This makes Venture Capital firms desirable to start-up companies that need an investment to begin product development. However, Cairns (2021) claims that the largest investments from Venture Capital firms are not being given to start-ups but instead older companies that are further along in product development and marketing (para. 9). The pot of funding dedicated to helping start-up companies is smaller, making it less likely for many of those companies to succeed. Zider (1998) agrees with this claim, stating that “Venture capitalists invested more than \$10 billion in 1997, but only 6%, or \$600 million, went to start-ups. Moreover, we estimate that less than \$1 billion of the total venture-capital pool went to R&D”

(para. 4). With limited resources available to start-up companies, in any industry, the way in which venture capitalists use their investment criteria can determine the success or failure of emerging companies.

Venture Capital firms use the same general guidelines as the baseline for their investment criteria. While the personal interests and industry focuses of firms may differ, the overall structure of the investment determination process is similar across Venture Capital firms. Throughout the entire process, firms typically follow these steps: “venture capitalists raise funds (fundraising), invest those funds in an investment process (deal origination, screening, evaluation, structuring), manage their investments once an investment decision has been made (monitoring and value adding), and eventually realize any profits from their investments (exit)” (Kollmann & Kuckertz, 2010, para. 4). Investment criteria for the evaluation of specific potential companies is typically utilized during the screening and evaluation steps. This investment criteria, while it may vary specifically from firm to firm, includes many constants across the board. These include “the personality of the entrepreneur, the experience and qualifications of the entrepreneur, the product/service, the market and financial considerations” (Kollmann & Kuckertz, 2010, para. 7). However, while these categories are common among many firms, the factors are evaluated in very different ways depending on the venture capitalists utilizing the investment criteria. According to a survey of 681 Venture Capital firms, as many as 17% of venture capitalists investing in start-up companies do not use quantitative measurements when deciding whether to accept a deal (Gompers et al., 2020). While the steps in the investment cycle and the evaluation guidelines may be similar from firm to firm, the way in which the investment criteria is considered and used, at the discretion of the venture capitalist, greatly impacts companies in the women’s health field.

There is evidence that women's health is severely underfunded compared to men's health or general health products. As described previously, approximately only 5% of biopharma investments made in 2020 were in women's health (*Unlocking Opportunities in Women's Healthcare* | McKinsey, n.d.). The women's health field is a huge market not being utilized by venture firms. The lack of funding for women's health companies negatively impacts the innovation in the women's health space. Without the necessary funding, women who are desperately in need of drugs or medical devices to treat a disease will go underserved. Meanwhile, "in nearly three-quarters of cases where a disease primarily affects one gender, the so-called 'men's diseases' are overfunded, while the 'women's diseases' are dramatically underfunded" (Bird, 2022). This statistic shows how there is a desire to invest in the medtech or pharmaceutical industry but disproportionately in men's health or general health. The influence of gender on the success of a company also plays a role when looking into the position of the entrepreneur.

There is evidence that the gender of the person representing the company attempting to receive investments influences the decisions of a Venture Capital firm. It does not matter what the product of a company is; if there are women in positions of leadership at the company, it is likely the company the woman is representing will receive less funding from Venture Capital firms. Investors at a venture firm could be interested in investing in a product, but as shown by a simulation created to study gender and Venture Capital decisions, cultural beliefs and pre-established gender bias are most influential when a Venture Capital firm is making a decision to invest (Tinkler et al., 2015). There is also evidence that specific gender characteristics invoke biases by venture capitalists. Not only does gender influence the success of a pitch, but gender stereotypes displayed by the person giving the pitch, regardless of gender, can influence the

likelihood of receiving an investment (Balachandra et al., 2019). Gender disparity runs deep within the Venture Capital and healthcare systems, sometimes stemming from when a company is still in the research stage of product development.

Historically, the representation of women in pharmaceutical and medical device research has been significantly lacking. Gender influences the full timeline of pharmaceutical regulation and development, including clinical trials, FDA approval, and marketing (Fisher & Ronald, 2010). The way that a company conducts research or clinical trials is heavily influenced by the intended patients, but if both men and women are impacted by a disease, women tend to be underrepresented in research. In one instance, “Cardiovascular disease... is the number one killer of women in the United States, but only about a third of participants in clinical trials for new treatments for cardiovascular disease are female.” (Bird, 2022). This underrepresentation of women in research highlights the necessity for investments in women’s health products so that women are able to have access to medical devices and pharmaceuticals designed with their safety in mind.

In order to analyze the connection between gender bias, investment criteria, and women’s health companies, I use Michel Callon and Bruno Latour’s Actor Network Theory (ANT). According to Cressman (2009), “ANT attempts to ‘open the black box’ of science and technology by tracing the complex relationships that exist between governments, technologies, knowledge, texts, money and people” (p. 2). ANT highlights the importance of technology as a part of society and the idea that human and nonhuman actors exist as a part of a network which defines their relationships. Furthermore, I use Callon’s theory of Translation. Callon (1984) explains that “translation is the mechanism by which the social and natural worlds progressively take form. The result is a situation in which certain entities control others” (p. 224). I use this

framework to examine the investment criteria as the nonhuman actor, with the Venture Capital firm, venture capitalists, medical device and pharmaceutical companies, and entrepreneurs as the other actors. The impact of gender throughout the full timeline of medical devices and pharmaceuticals is considered in the establishment of relationships between all of these actors. I show that the vague guidelines within the investment criteria that are used as a baseline for most Venture Capital firms directly harm women in positions of leadership, therefore hindering the success of many women's health companies. The way current investment criteria is used by venture capitalists directly has a negative impact on the growth and accessibility of women's health products.

Methods

I gathered secondary sources, academic journal articles as well as datasets, in order to conduct a case study analysis of the influence of Venture Capital in the women's health field. The academic journals focus primarily on the role of gender in the development of medical devices and pharmaceuticals. The journals also focused specifically on the role of gender in entrepreneurship and receiving venture funding regardless of the type of company. The datasets provide statistics regarding the amount of investments provided to different areas of innovation. I also use the datasets to show the gender disparity in Venture Capital and in the medtech field. A case study analysis was chosen in order to best explore the impact of the nonhuman actor of Venture Capital investment criteria within the pharmaceutical and medical device space.

Analysis

Venture capital investment criteria reaffirms gender bias against female entrepreneurs. Most Venture Capital firms use a similar set of criteria when evaluating potential investments. This criteria usually involves "the attractiveness of the market, strategy, technology, product or

service, customer adoption, competition, deal terms, and the quality and experience of the management team.” (Gompers et al., 2020). The part of the investment criteria that provides opportunities for potential bias to affect decision making is the evaluation of the leadership team of the company seeking funds. Venture capitalists look for “strong” leadership, yet how that strength is defined is vague and left up to the interpretation of the investor. This vagueness in the investment criteria allows for gender bias to heavily influence the decisions of the venture capitalists, which negatively impacts female entrepreneurs. Johnson (2008) states that women are negatively impacted by both descriptive and prescriptive bias:

Descriptive bias results from the lack of fit between the feminine role and the leader role, leading to the conclusion that a woman does not possess the necessary characteristics to fill the leader role. Prescriptive bias occurs when a woman adopts a more masculine leadership style, violating her sex role expectations. In both cases, the female leader is evaluated negatively (para. 7).

Women in entrepreneurship quite often do not meet the leadership expectations set by biased standards, therefore harming the success of the companies that they represent. Their companies are harmed because “female entrepreneurs risk receiving significantly less venture capital, which is caused by the language and rhetoric used that relates to gender differences when funding decisions are made” (Malmström et al., 2017). Without the necessary funding, companies will either fail to get their product to reach the market or seek other avenues for funds. This discrepancy is particularly harmful in the field of women’s health. In an article from McKinsey & Company it was discovered that more than 70% of the women’s health companies in their dataset had at least one female founder, which is significantly greater than the 20% found in all new companies regardless of field (*FemTech | McKinsey*, n.d.). This means that women’s health

companies are disproportionately impacted by the vagueness within the Venture Capital investment criteria.

Others may argue that there are several factors that are represented in investment criteria that are less likely to be influenced by gender bias. As described previously, these factors could include “the attractiveness of the market, strategy, technology, product or service, customer adoption, competition, deal terms” (Gompers et al., 2020). However, it has been found that venture capitalists consider the strength of the company’s leadership team more heavily than any other factor of criteria. According to Gompers (2020), “the management team was mentioned most frequently both as an important factor (by 95% of VC firms) and as the most important factor (by 47% of VC firms)” (para. 9). This disproportionate consideration means that even if a company marked perfectly in every other criteria, if the investors deemed the leadership team to be lacking, the venture firm would likely not invest. A firm making an investment decision primarily due to the judgment of a leader’s abilities leaves the entire process vulnerable to gender bias. Kanze (2020) claims that “early-stage investment decisions are made under conditions of high uncertainty in the absence of historical track records within the entrepreneurship setting where gender is salient” (para. 5). When a company is in the early stages of developing a product, the easiest way to compare two companies is by comparing the leadership teams. This sets female entrepreneurs, and therefore a majority of women’s health companies, at a disadvantage.

Venture Capital firms use investment criteria to further promote male-dominated industries, both in venture and healthcare. Venture Capital is a male-dominated industry: “only about 12% of decision makers at VC firms are women, and 65% of firms still do not have a single female partner” (Kapaun, 2022). With men being the primary wielders of the investment

criteria, the criteria is more likely to be used in a way that discriminates against female entrepreneurs. Balachandra (2020) claims that “women entrepreneurs may be having greater challenges in entering the realm of consideration for VC perhaps due to the significant disparity between the number of male to female VC *investors*. To reiterate, men account for 93 per cent of the VC investment community” (para. 15). The lack of female representation in Venture Capital firms leaves both female entrepreneurs and companies catering to female markets vulnerable. There is evidence that male venture capitalists are biased against companies catering to female markets; however, they are more likely to consider those companies if they are led by men (Balachandra, 2020). Male entrepreneurs are more likely to be considered for funding, even when representing similar companies to those with women in leadership.

In the field of healthcare, the discrimination against women’s health companies can be most likely attributed to the male venture capitalists feeling uncomfortable discussing a “women’s issue.” Balachandra (2020) supports this hypothesis by stating:

They [men] may also subconsciously feel that ventures that focus on female markets are not ‘cool’ to fund or even ‘appropriate’ for them to discuss, as was recently reported for breast pump technology entrepreneurs who sought funding and found male venture capitalists to be squeamish when discussing the problem and the technology solution (para. 17).

Male venture capitalists being averse to discussing women’s health poses a huge roadblock to those companies seeking funding. Gerner (2020) describes several experiences from entrepreneurs who aimed to receive funding from firms but were met with only uncomfortable stares after trying to “pitch vagina-centric business” (para. 19) With Venture Capital being male dominated, those men make decisions that financially support other men in leadership positions

of healthcare. According to Kirsh (2022), “just 23% of the top executives at the world’s 100 largest medical device companies are women” (para. 1). It is more difficult for women to rise to a position of power within a healthcare company when the survival of that company, and its product, is dictated by the ability to receive funding from a group of male venture capitalists. Venture Capital investment criteria is not specific enough to properly evaluate the leadership capabilities of a person in leadership without introducing the biases of the male investors. The current investment criteria allows venture capitalists to conclude that “women are expected to be less capable than their male colleagues in male-dominated work contexts unless objective evidence of actual task performance proves otherwise” (Kanze et al., 2020). This sentiment reflects the self promoting nature of the male dominated industries. In women’s health, where the majority of companies are run by female leadership, it is difficult for companies to find success.

Conclusion

Venture Capital investment criteria leads to the underfunding of women’s health companies due to the vagueness of the language in the investment criteria, specifically with reference to the requirement of “strong” leadership. This criteria allows for venture capitalists’ own biases to dictate decision making, further promoting the male dominated industries of medical device and pharmaceutical development. Currently, Venture Capital investments are vital for the survival of start-up companies in the medtech and pharmaceutical industries. With necessary funding being prevented from reaching women’s health companies due to the biased decisions of venture capitalists, the women’s health industry struggles to provide potentially life changing technologies and pharmaceuticals for the patients that need them. The hope is that this research could be used by venture capitalists to modify their investment criteria to reduce the vague language that therefore creates areas where personal biases can dominate. Entrepreneurs

seeking funds could use it to adjust their strategies, allowing them to notice when a firm is biased and help them to seek out firms that are striving to reduce bias in their processes. Investors can also use this research to help them look closely at the investment criteria used by ventures in which they are considering investing their personal funds to see if their interests are aligned with the firms' priorities. A future researcher could build off this project by looking into new ways to conduct investments or new ways for companies to raise money instead of venture funds. They could look into other fields and see how investments are conducted for those companies, and see if there is less inherent bias dictating decisions within those systems. This research highlights the issue within the venture system and allows for others to explore ways to adapt investment criteria to remove as much bias as possible.

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