

# GENDERED ENTREPRENEURSHIP AND ITS IMPACT ON FIRM INNOVATIVENESS – A LITERATURE REVIEW

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## Summary

Entrepreneurs gain a lot of attention in recent decades. Even if a precise definition of entrepreneur and entrepreneurship remains problematic, it is clear that there is a strong link between entrepreneurship and innovativeness, as well as between entrepreneur and innovation. In the current era of globalisation, the importance of innovations is as great as never before. And so is the importance of innovativeness determinants. Investigating gender differences with respect to various aspects of running business has become a popular topic of scientific publications. However, not much is known about the impact of the owner's gender on the innovativeness of business. The aim of this article is to provide a thorough analysis of the existing literature on this topic and to set the ground for the empirical research to fill in the existing knowledge gaps.

**Key words:** entrepreneurship, gendered entrepreneurship, female firm owners, innovativeness, gendered innovativeness

## Introduction

In general, entrepreneur is viewed as a person who establishes and runs his or her own firm, generating profit and growth through ideas, which can be treated as innovative (Kirby, 2003), either in terms of management, resources used or organizing already known and broadly utilized resources in a different manner. Entrepreneurs' role is to embrace ongoing changes, discover any potential opportunities resulting from them and transform those opportunities into ideas that can be further used in the production process or on the market. Looking at entrepreneurs and their role, three major approaches can be distinguished.

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In the idea of entrepreneurship and entrepreneur developed by Knight, the key notion is risk-taking – an entrepreneur takes risk when needed and is ready to accept all of the consequences connected with it. This condition is often called either true uncertainty or Knightian uncertainty – when the risk and uncertainty are indescribable and impossible to estimate (Dizikes, 2010). Knight perceived both of these notions as a source of opportunities – If everyone had the same knowledge of the current situation and its components, it would decrease or even eliminate any room for managerial or entrepreneurial actions (Knight, 1964).

Schumpeter views entrepreneur as an innovator, a pioneer initiating the economic change. Schumpeterian entrepreneurs are somehow programmed to search for new things that significantly differ from those already well known. Unlike Knight's, Schumpeter's entrepreneur is not dealing with the uncertainty about the economy – it is the capitalist who bears it, as he is the one who allocates funds to the entrepreneur (Nielsen, 2012). Schumpeter does not perceive combining the existing resources in a new way or applying changes to the existing products or goods as progress – only an innovative idea can lead to further development (Schumpeter, 2011). Being an entrepreneur is about finding new, previously unknown information – in order to be fully innovative and not limit his role to simply improving something which is already present on the market and widely known (Schumpeter, 2011). Due to the above mentioned conditions, Schumpeterian entrepreneurial opportunities are rather rare. But once they are present, the entrepreneur triggers and supports the economic development through his thinking outside the lines (Robbins L., 1968).

The approach to entrepreneurship and entrepreneur himself proposed by Kirzner, can be treated as the exact opposite of Schumpeter's view. Kirzner's entrepreneur is a person who discovers previously unnoticed profit opportunities and uses them in order to organize the already existing resources in a different way. This constitutes to the fact that the Kirzner's opportunities are not as innovative as in the case of Schumpeter (Kirzner, 1997) and, consequently, it is far more common for the Kirznerian entrepreneur to recognize and make a proper use of those opportunities (Shane, 2007). His task is to be alert, recognize the opportunities resulting from the supply and demand model and profit from them.

The fact that entrepreneurs come up with ideas either significantly different from the ones previously presented (like in case of Schumpeter) or just slightly altering the current state (Kirznerian entrepreneur), is exactly what differentiates them from business owners. Radical or incremental innovations are therefore what it takes to be an entrepreneur. Also Drucker mentioned this link between innovativeness and entrepreneurship by stating that innovation is what helps entrepreneurs deal with the change, which should be treated as an opportunity (Drucker, 1985). What is more, innovation should be perceived as a trigger which makes the development possible – without them, the economy would be a collection of imitative business ventures (Kirzner, 1971).

It is commonly known that entrepreneurship is a male-dominated phenomenon, but female entrepreneurs become more and more noticeable. Gendered differences in the way of preparations, setting up a firm and managing it, gained a lot of attention in recent years (Alsos, Ljunggren, 1998), (Davidsson, Honig, 2003), (Wagner, 2007), (Wasilczuk, Zięba, 2008). However, little is known about the impact of entrepreneurs gender on firm innovativeness. This seems to be an important topic. A lot has been done recently to encourage women to start their business and to increase their rate of participation in general business owners population. At the same time a lot of emphasis is placed on increasing innovativeness of businesses. But can those two goals be accomplished, if female innovativeness is different from (and allegedly less prevalent than) the male one? This article aims at collecting and reviewing the existing knowledge on the topic of gendered innovativeness, as well as creating the ground for empirical research on innovativeness of gendered entrepreneurship.

## 1. Gendered Entrepreneurship

### *Differences in general characteristics*

As more and more women decide to switch from employment to entrepreneurship, the number of studies and articles describing and analyzing this phenomenon grows accordingly. Many of them hypothesize that female firms are different than the male ones in many aspects.

First and foremost, they tend to be relatively smaller when compared to the male firms, both in terms of the number of employees hired and the level of profit (Cliff, 1998). Additionally, they are not expected to grow in the future – they are much less growth-oriented than the firms of their male counterparts. These characteristics tends to be viewed as a proof for the female firms to be less successful than in case of their male counterparts (Ranga, Etzkowitz, 2010).

Apart from the size, female firms are usually concentrated within the service industry. These two features, i.e. the size and the industry it operates in, are correlated – most of the small firms are aimed at providing people with various services, rather than manufacturing any tangible products (Marlow, McAdam, 2013). This means that by choosing the service industry women, indirectly, make a decision on the firm's size.

Most of the firms run by women also tend to be slightly younger than those owned by men. This may be considered one of the reasons why they are also smaller (Catley, Hamilton, 1998) – there is a possibility that female entrepreneurs simply had less time to develop and extend their firm's scope. That is why the size of firms run by women should not be considered as a matter of choice or industry specific feature only.

Another important characteristic of the female firms is the attitude towards growth. Women are less growth-oriented – they prove to be more often satisfied with the actual state their firms are in, giving up on export and relying on households as their main customers. Men on the other hand, are more often interested in growing their firms as much as possible (Rietz, Henrekson, 2000). However, both female and male entrepreneurs are hoping for their firms to grow – they just differ in the way they perceive growth and how they are willing to achieve it. Additionally, men are more optimistic when it comes to the expansion chances (Cliff, 1998) – they are more likely to believe that any steps taken in order for their firms to grow, are going to be successful.

Female entrepreneurs differ also from their male counterparts when it comes to business experience. Most women gain their experience as entrepreneurs through running their own firms, not sooner (Catley, Hamilton, 1998). And as some studies show, women tend to have generally less experience than their male counterparts – not only in terms of starting a firm, but also in managing physical or human resources and any industry-related experience (Cliff, 1998). The lack of experience may explain to some extent the industry women choose to start their firms in – the service sector proves to be the easiest one for someone who wants to enter self-employment due to the fact that it usually does not require any specific, technological knowledge, complicated regulations or advanced technology (Jamali, 2009).

Generally speaking, women have worse access to finance. When applying for a bank loan, they sometimes face discrimination on the lender's side. Because of that, women may be more willing to engage in sectors requiring less financial capital and less assets in total. This may result not only in smaller size but also in worse prospects for the firm's growth (Caliendo, Fossen, Kritikos, Wetter, 2013). Even if not facing discrimination, it is more challenging for most women to get a bank loan since their creditworthiness is lower than in case of most men, forcing them to rely more on their friends and families in terms of borrowing money for financing their business plans (Brindley, 2006). Not only financial institutions such as banks consider women to be less serious and trustworthy than men – the same applies to venture capitalists or business angels. Because of that, female entrepreneurs have to deal with serious problems, especially if the fact that they rely mostly on external debt as the main source of capital is taken into account (Ranga, Etkowitz, 2010). This may also be viewed as the reason why female entrepreneurs are believed to have lower self-confidence than their male counterparts.

There is no doubt that women and men are different when it comes to psychological attributes – just to begin with, due to the fact that they are socialized differently (de Bruin, Brush, Welter, 2007). As a result, they think differently, have different values, qualities and are expected to be more caring, possess more social sensitivity, and therefore assign higher importance to social values (Cliff, 1998). All those psychological differences influence the way men and women run their firms,

and – consequently – their firms' general characteristics. We focus here on three major psychological aspects: motivations, risk attitude and personality traits.

### ***Motivations***

The fact that a woman decides to leave her job and start a firm on her own, may be a result of some restrictions which many women face during their work career. The term mentioned by Jamali (2009), glass ceiling, can be viewed as a factor which causes women who feel discriminated and limited in their actions, to start a firm on their own. This hypothesis has been also mentioned by Walker and Webster who claim negative previous experiences and frustration connected with current working conditions and environment, such as lack of opportunities to be promoted or low payments, as the most popular reasons for women to become self-employed. Some women also want to escape supervision. Moreover, an important factor for women is the balance between work and family. Self-employment gives female entrepreneurs more chances to both have a career and successfully run a household. The double shift (work and family), as mentioned by Walker and Webster (2007), can be perceived as a real challenge for female workers. However, Ljunggren and Kolvereid (1996) claim that the main motivator for a woman to start up her own firm is her need for independence and challenge, rather than the glass ceiling or discrimination. They believe that women are simply willing to create their own workplace and combine it smoothly with family responsibilities.

### ***Risk attitude***

The way women and men perceive risk, as well as deal with it when they encounter a risk-related decision or situation, may differ. According to Brindley (2006) women entrepreneurs score lower than their male counterparts when propensity to take risk in the business activity is taken into account. As a result, female entrepreneurs are trying to take as much control over the risk connected with starting a business as possible – it reveals itself in the first steps women take. First of all, they spend much more time and energy on thinking over their business ideas, wanting to make sure they are able to support it – in terms of finance or any other resources needed. Secondly, that is why they choose a business activity which feels more familiar to them – so that they can, even intuitively, make the right decisions. Additionally, women rely on a network of family and friends more than men (Brindley, 2006). It appears to make them feel more secure and definitely proves that women are more cautious when starting and running their own firms (Ranga, Etkowitz, 2010). Women's desire to control and reduce the risk can also be viewed as one of the reasons why their business activity is concentrated mostly in low-growth sectors of the economy and prove that female entrepreneurs consider growth to be risky (Brindley, 2006). This can definitely be seen as an advantage that male entrepreneurs hold over their female counterparts– they are less afraid of making a presumably risky decision

(Slovic, 1987). And, what might be even more important, when dealing with the unknown, most men think only of the financial risk they are about to take, unlike women who believe that business ownership is connected with much more than just financial risk (e.g. psychological risk – the obligation to deal with failure) (Green, Cohen, 1995).

### ***Personality traits***

Some of the research papers concerning the differences between female and male entrepreneurs suggest that the gender differences in personalities may be helpful in explaining the entrepreneurial gender gap, i.e. gender-based disparities among the self-employed. In order to simplify comparing those differences, Big Five Factor model of personality is used to check whether those five character traits may affect a person's predisposition to become an entrepreneur. According to McCrae and Costa (2008), the five factors taken into further investigation are openness to new experience, conscientiousness, extraversion, agreeableness and neuroticism. As Zhao and Seibert (2006) have reported, those five personality traits do have an impact on the probability of becoming self-employed. Women score differently in comparison to men, when the Big Five traits are taken into consideration (Caliendo, Fossen, Kritikos, Wetter, 2013). The difference is visible when it comes to personality traits responsible for a person's tendency to fear failure, attitude towards risk, as well as self-confidence and willingness to compete. Women proved to be more open to new experiences, more dutiful, extraverted and agreeable, but at the same time less emotionally stable. Men, on the other hand, are able to cope with any risk connected with business performance easier than women. They also prove to have a more internal locus of control when compared to women. The differences between men and women with respect to the Big Five traits are confirmed by other studies as well (Caliendo, Fossen, Kritikos, Wetter, 2013), (Schmitt, Realo, Voracek, Allik, 2008).

### ***Social factors***

When analyzing any differences between male and female entrepreneurs, social aspects should be indicated as well. The stereotypes and beliefs, the way that women are perceived by the society, may have some impact on how they view themselves (Robbins A., 1986). Some stereotypes can also undermine female entrepreneurs. According to Catley and Hamilton (1998), women are thought to be lacking some of the features that a successful entrepreneur should have. As a result, those women who have decided to enter self-employment are viewed as less successful than their male counterparts regardless of their actual performance.

Another society-related reason why male and female entrepreneurs may differ is the fact that women are expected to balance their work and family life smoothly. This pressure put on women by societies may push them towards self-employment. Since women are expected to balance between their personal, professional and fam-

ily responsibilities, it can automatically alter their attitude and expectations towards their own firms (Diaz-Garcia, Brush, 2012).

### **Conclusions**

Having considered all that, women should obtain more support from their social environment – not only on a basic family/friends level, but also on the regional and national level (Ljunggren, Kolvereid, 1996). Apart from some legislation prohibiting the gender-based discrimination, women could also obtain subventions for their business ventures, so that the chances for male and female entrepreneurs are the same and, what is more important, so that the gender gap could be overcome – the self-employment entrance level for both genders could be equal (Hausmann, Tyson, Zahidi, 2012). Only then could the comparison of male and female entrepreneurs allow to fully capture any possible differences – once the self-employment entrance rate for both genders would be equal or at least similar.

## **2. Gendered Innovativeness**

Female innovators are less visible than the male ones (Kushnirovich, Heilbrunn, 2013). What is more, they are less likely to occupy senior positions in organizations. Fountain just adds to this picture stating that women are poorly represented in the sector of scientific and technological development of the information society, which means that their input in the modern society is simply much less significant (Fountain, 2000). Their activity in terms of patenting is also lower in comparison to men, which suggests they are playing a less significant role on the innovations' market (de Melo-Martin, 2011). Additionally, even if they do generate a patent, it is usually prepared in collaboration with other scientists (Mauleon, Bordons, 2010). But does it all really mean that females have a lower propensity to innovate?

### ***Internal and external determinants of gendered innovativeness***

Mueller and Thomas (2000) simply stated that the innovative orientation is more likely among men. Some other studies have also shown that female entrepreneurs do not have an opportunity-driven approach to their firms and have a lower tendency to offer some additional services, connected with the product they are already offering – this might be considered to be a sign of a lower level of innovation as well (Serviere-Munoz, Vicdan, Saran, 2013). In many cases the authors suggesting that women are less likely to innovate use as their argument some of the barriers, especially those connected with the psychological predispositions, mentioned before. In order to boost their self-confidence, women need to have the advantage of age, i.e. be older than their competitors or business partners, have some role models to look up to in order to see that it is possible for a woman to achieve something and to see

how one can do it, feel the support, most importantly of the closest environment, as well as have the advantage of education (Nählinder, 2010).

There are, however, studies suggesting that the lower propensity to innovate among females is a result of other, more external factors influencing women. One of them has shown that the culture of origin can affect person's innovativeness – it can boost the preference for innovation as some cultures are simply more innovative, with a positive attitude towards change and risk, dealing with uncertainty more easily (Kushnirovich, Heilbrunn, 2013). This is supported by a Scandinavian study, which has shown that women, when talking about their innovative ideas, very often lacked self-confidence, which can be contributed to the concept called Jantelag (eng. Law of Jante).

### ***Management style and social abilities***

The female management style does have a significant impact on the type of innovations that are likely to be produced. First of all, women tend to run their firms like a family (Blake, Hanson, 2005), using the experience gained while taking care of the household, which is visible in the way the female entrepreneurs communicate with their workers. A female employer's behaviour and the decisions made by her are dominated by the soft, i.e. communicative and empathic, skills (Martin, 2001), as for a female entrepreneur all the intangible assets are the most important ones (Lerner, Almor, 2002). When running a firm, similarly to a family, women are expected to be more sensitive than men, listen more carefully to what others are suggesting and show more empathy and understanding. The collaboration within the firm, as well as the importance assigned to the dialogue in general, is expected to strongly support the development of knowledge in such a firm (Martin, 2001). Taking all this into consideration, women are more cut out for coming up with soft technology innovations, i.e. those revolving around humans, individuals and their emotions (human-focused innovations) (Jin, 2013), as well process innovations within the business. It is also important to note that putting an emphasis on the dialogue and empathy can have another crucial implication for the firm – it can encourage employees to share their ideas with the co-workers and the employer, regardless of their position in the business's hierarchy. This can be expected to bring more potential innovations, especially in terms of internal processes.

Since the interpersonal skills and social abilities are female entrepreneurs' strongest assets (Lerner, Almor, 2002), they see their firms more as a network of relationships rather than a hierarchy (Blake, Hanson, 2005). As a result, female entrepreneurs emphasize the importance of openness in communication and involvement of a variety of workers in the decision-making process (Lerner, Almor, 2002) – so that the firm resembles a team or a family, rather than a dictatorship. This could result in the fact that the collaboration within the firm runs more smoothly and the employees feel more motivated and encouraged to participate in the decision-making processes – an initiative with the innovation potential can come not only from the top man-

agement, but also from those employees from the lower levels of hierarchy in the business.

### ***Gendered innovators and their innovations***

Although the environment in female firms appears to be encouraging and working in favour of discovering the potential of the employees, some of the technical aspects of the female innovations are rather surprising. Firms run by women are far less likely to have an R&D team, unlike those of their male counterparts – when compared, male entrepreneurs seem to have more structured approach towards innovation. Additionally, women have no set pattern when working on new ideas within their firms – this process is more spontaneous and happens along with the everyday tasks (Martin, 2001). It lacks the formality that male-run companies apply when innovating. However, female firms are usually smaller and the smaller the firm, the better the information flow is. This may explain why female entrepreneurs do not feel the need to have a fixed, strong structure when dealing with new ideas (Martin, 2001).

When it comes to innovations produced by women, they are slightly different than those made by men. Female entrepreneurs are more likely to work on technologies related to reproduction, children and home. This can be viewed as the first aspect of the gendered innovation, where a woman uses her gendered experience – what she has learned while acting out the roles given her by the society, especially those connected with the family, i.e. being a wife or a mother. Women simply feel related to those fields and such innovations can influence their lives significantly, facilitate the everyday tasks women deal with, and help them combine work and family responsibilities more efficiently (de Melo-Martin, 2011).

Another type of gendered innovation can be observed when a female entrepreneur decides to launch a gender atypical firm – she starts operating in an industry which is usually dominated by male entrepreneurs, either due to cultural tradition over the years, or because of some physical or psychological predispositions of men. That is why the fact that a woman starts a firm in such an industry can be treated as an innovation itself. Women do not use the same motivation techniques as men and they possess soft management skills. These features can be treated as a competitive advantage that female firms may have when running a gender atypical business (Blake, Hanson, 2005).

Women face a number of gender-specific barriers, when it comes to innovations. They can be divided into five broad groups, including financial, education and experience, networking, psychological and social barriers.

### ***Financial barriers***

As already stated, female firms are usually small, employing a very limited number of people or operating as a one-person business. They tend to lack financial

resources in general – which means they struggle to finance any innovation-related investments as well (Martin, 2001). That is why obtaining capital is considered to be one of the main barriers for female entrepreneurs, limiting not only their ability to innovate, but also to become entrepreneurs. This problem is rooted in the fact that women's salaries are usually lower than those of men – resulting in lower savings and leading up to the fact that it is harder for a female entrepreneur to get a bank loan to finance her investment ideas (Startiene, Remeikiene, 2008).

In terms of financing the innovation-related investments in case of women, the environment also plays a crucial role. Usually investors are less keen on investing in female firms. This also results in the fact that women have worse access to finance, which blocks their initiatives (Carrasco, 2014). It can be considered to be a biased approach that the investors have towards the female entrepreneurs, a stereotypical thinking that women are worse entrepreneurs than men. On the other hand, the lack of funding may also be viewed as a result of managerial incompetence of female entrepreneurs and lack of understanding of the financial matters. Lekovic (2013) wonders whether women are worse at being managers, or they simply lack the financial knowledge (since very often they do not have any previous managerial experience), or maybe their financial issues are related to networking, as it is harder for women to find a person to co-sign their credit.

### ***Education and experience***

The lack of appropriate education is still considered to be an obstacle which has to be mentioned when discussing barriers for female innovativeness. Despite the fact that nowadays employers value those with an engineering or science degree as it is viewed as the field with the brightest future ahead, women are still less interested in getting an education in science, technology, engineering or mathematics (STEM). This, unfortunately, locks their doors to entrepreneurial activity in the high-tech sectors, which are still the most innovative ones. It also makes them less likely to be involved in highly innovative firms, even as an employee (Carrasco, 2014).

Another barrier influencing women's ability to run a firm and work on innovative projects is the fact that they lack experience in senior management areas. The reason for that is very often the glass ceiling (Lerner, Almor, 2002). This can be viewed as a vicious circle – a woman is employed in a firm, unable to get a promotion to a senior manager due to the glass ceiling effect, quits her job and starts her own firm to avoid such restrictions, to finally find it difficult to develop her own innovative ideas due to e.g. financial problems, which are a result of her lacking the senior management experience in the field of finances.

Another issue, connected with networking, but in fact resulting from women's lack of the STEM education, is that they do not possess the knowledge and capabilities needed to acquire the human capital necessary for innovating in the field of technology. The fact that most women never studied STEM themselves, limits their ability to find any potential employees with the required education, or at least makes

it more difficult for them than in case of STEM graduates (Startiene, Remeikiene, 2008).

### ***Networking***

The next factor affecting women's innovative activity is networking. The ability to build a network of people is an important part of developing an innovation. Unfortunately, women tend to count on their closest friends and relatives, whereas men are better at building networks of people both on the professional and strictly private level. Men are far more likely to belong to business associations and clubs, which prove to be helpful in making new contacts, potentially useful for their professional careers. Women are rarely a part of them for a variety of reasons. First of all, they seem to find it quite challenging to identify with them – females believe that the business clubs and associations are more suited for men and if any of them decided to attend one of the meetings, they would be openly patronized by the dominating male members. Even if some of the female entrepreneurs would be keen on being a part of one of the business associations, the meetings are usually held at inconvenient for working mothers hours – during the breakfast time or early in the evening. In most of the cases, female entrepreneurs are trying hard to divide their time and attention between being a mother and/or a housewife and building a professional career. This can significantly decrease the number of such networking opportunities for them (Martin, 2001). The problem of networking can also be connected with the fact that women are perceived to be less trustworthy in business than men, with a lower possibility of success. Because of that it could be more difficult for them to build a network needed to innovate – both on the financial and more technical side (i.e. employing technical staff) (Lekovic, 2013).

### ***Psychological barriers***

The way women perceive themselves and the world surrounding them, can be a very relevant issue when discussing what keeps women from innovating. One of the most important factors when implementing an innovation, is the person's self-esteem and self-efficacy (Pretorius, Millard, Kruger, 2005). Unfortunately, women are not as self-confident as men on average are. Even if a woman does take action with confidence, it is much easier to undermine than in case of men (Shapiro, Sax, 2011), as women are more vulnerable to criticism and ready to give up on their idea once someone questions it (Nählinder, 2010). This results in the fact that women often lack the ability to innovate on their own, independently – their lack of self-confidence, combined with the unwillingness to take risks, makes the decision of implementing an innovation difficult to make. And even when a woman starts the implementing process, she gets less support than men do, which can be even more discouraging (Lekovic, 2013).

### **Social barriers**

The last point mentioned above can be crucial in understanding what women need when working on their own innovative projects – encouragement. That is why it can be difficult for female entrepreneurs to be as successful as their male counterparts – they do not have too many female role models or mentors, i.e. women who successfully came up with and implemented an innovative solution, who could give them some helpful advice and show them that their success is just a matter of time (Karatas-Ozkan, Chell, 2013).

Many female entrepreneurs are to some extent hindered by the fact that at some point of their career they need to choose what they want – a great professional career and an impressive resume, or a happy family with children (Karatas-Ozkan, Chell, 2013). Usually it is hard for a woman to combine those two and this might be one of the barriers that makes it more difficult for women to innovate – they simply have less time than men, as in fact they have two jobs instead of one (Carrasco, 2014).

Women are also somehow influenced by the gender stereotypes functioning in the society. In many different cultures women are viewed as mothers and wives, and not as potential entrepreneurs. These expectations the society has, make the decision to start an own firm even more difficult. And since women are not expected to be entrepreneurs, the role of an innovator is not considered to be an option either. If those opinions and expectations are shared by family, relatives and friends, a woman who wants to start her own firm or work on her innovative idea gets far less or even no support from her closest environment. Overcoming this cultural conditioning requires far too much time and effort, which is why some women simply decide it is not even worth trying. Those who decide to give it a try are constantly reminded that it is better perceived when men are those who commit themselves to having their own firm or preparing innovative projects (Startiene, Remeikiene, 2008). Finally, since the society expects women to play both roles simultaneously, women often discontinue working on their innovative projects due to personal reasons – they simply do not find enough time to fully commit themselves to a risky, highly time-consuming innovative project, due to the tasks awaiting them at home (Nählinger, 2010).

As can be seen from the analysis performed above, the reasons for a limited innovativeness of female entrepreneurs are numerous, complex and interrelated, which makes them rather difficult to eliminate or even to reduce.

### **Conclusions**

Female business owners tend to be different from their male counterparts for a number of potential reasons. Psychological and social aspects seem to be crucial here, but they influence other areas, such as business financing. All this contributes to female firms being different from those run by men.

When it comes to gendered innovativeness, two issues emerge: direct and indirect influence of gender on business innovativeness. The direct influence is based on the fact that female innovations may be different from male ones, as female innovators differ from their male counterparts. The indirect influence can be found in innovativeness of female firm being shaped by the characteristics of the firm itself. In other words, innovations implemented by women are different not only because women are different, but also their firms are different (in terms of goals, size, organisational culture, etc.).

There should be no doubt that women's activity in the more technology-oriented part of the world economy is crucial – the fact that it is still very often omitted in research, “limits scientific creativity, excellence and benefits to society” (Schiebinger, 2011). And because it appears that women need a push towards innovation, some initiatives should be introduced, such as:

- programs aimed at increasing women's participation in general;
- the research institutions should be transformed so that they would suit women's needs more;
- the gender bias both in science and in technology should be minimised, if not eliminated at all.

But the first step that should be made is the one connected with encouraging more women to take and graduate from STEM courses– so that the proportion of male and female STEM graduates and employees equalizes, along with the opportunities to innovate, especially in technology.

It is important to note that some of the previously mentioned obstacles in female innovativeness development are rather hard to overcome, especially those connected with the psychological and social barriers. In order to achieve some favourable changes it is crucial to focus primarily on those aspects that are more accessible.

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## **PRZEDSIĘBIORCZOŚĆ KOBIECA I JEJ WPŁYW NA INNOWACYJNOŚĆ FIRMY – PRZEGLĄD LITERATURY**

W kilku ostatnich dekadach dużo uwagi poświęcono przedsiębiorczości. Choć nie powstała jeszcze precyzyjna i powszechnie akceptowalna definicja zarówno przedsiębiorcy, jak i przedsiębiorczości, to wyraźnie zaznacza się związek między przedsiębiorczością i innowacyjnością, jak również między przedsiębiorcą a innowacjami. W obecnej erze globalizacji znaczenie innowacji jest niewątpliwie ogromne. To zaś nadaje wagę badaniom nad determinantami innowacyjności. Badania nad wpływem płci właściciela/przedsiębiorcy na rozmaite aspekty działania jego firmy zyskują w ostatnich latach na popularności. Niewiele jednak wiadomo o tym, jak płeć właściciela wpływa na innowacyjność jego firmy. Celem tego artykułu jest dokonanie analizy istniejącego stanu wiedzy w tym obszarze i położenie podwalin pod przyszłe badania empiryczne. Posłużą one wypełnieniu zidentyfikowanych luk badawczych.

**Słowa kluczowe:** przedsiębiorczość, przedsiębiorczość kobieca, kobiety właścicielki firm, innowacyjność, innowacyjność kobiet