



# Female Entrepreneurship Research: An Evolution of the Field and Impact on Policy

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**Abstract.** This paper maps out female entrepreneurship research from 1986 to 2020, highlighting contributors to the field and the impact they have made, and exploring how researchers have considered the mediatory role of “motherhood” and “meso/macro environment” on female entrepreneurship in their research. Bibliometric methods using HistCite and VOSviewer analytical tools were used to conduct a performance analysis and science mapping of the female entrepreneurship literature. We looked at the evolution of the female entrepreneurship literature using the 5Ms framework as the guiding lamp. We discovered that female entrepreneurship research is fast-growing, but still predominantly carried out by female researchers. Our review also revealed that over the years, women’s family context (Motherhood), i.e. the presence of young children and other family roles; and their environments (Meso/macro), i.e. expectations and cultural norms of female entrepreneurs set by society, mediate their ability to identify or create opportunities (Market), their access to financial capital (Money) and their ability to profitably run their ventures (Management). How female entrepreneurship research findings appear to influence public policy on female entrepreneurship is also considered. In particular, a comparison of policy documents between the OECD/EU and Ghana suggests that scientific findings from female entrepreneurship research play a bigger role in public policy making on female entrepreneurship in the developed country context compared to developing countries. Finally, the present study also proposes possible future directions of female entrepreneurship research.

**Keywords:** female entrepreneurship, public policy, 5Ms framework, bibliometric analysis, motherhood, meso/macro environment, market, money, management.

## 1. Introduction

Female entrepreneurship (FE) research has been growing steadily for the past three decades, achieving many developmental milestones and producing phenomenal knowledge on the female entrepreneur and her business (Jennings and Brush, 2013). This growth, however, did not take place in a day. For instance,

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Baker, Aldrich and Nina (1997) claimed two decades ago that academic articles on female entrepreneurs were rare, and that mainstream entrepreneurship journals gave little attention to issues concerning gender. About a decade later, De Bruin et al. (2006) also observed that studies conducted on female entrepreneurs constituted only 6–7% of the total number of articles published since 1994 in top refereed entrepreneurship journals, pointing to the fact that FE research was still an emerging field compared to other fields of research in management. However, Poggesi, Mari and De Vita (2016) concluded that research on FE had grown exponentially between the years 2000 and 2014, with researchers seeking answers to old but still relevant questions as well as new ones.

Even though women had owned and managed businesses for many decades if not centuries, it was not until the 1970s and 80s that academic writings in the forms of articles, conference papers and books dedicated to FE began to appear in the entrepreneurship literature (Jennings and Brush, 2013). FE has now become a sub-field of research studied by many around the world, culminating in volumes of literature in such areas as the processes through which women become entrepreneurs, the consequential effects of women's decision to become entrepreneurs, the differences there are between female entrepreneurs and their male counterparts, the various sources of funding available to female entrepreneurs and the challenges they encounter in accessing those sources, and many others. Much has been learnt about FE in the almost forty years of studies in the sub-field (Jennings and Brush, 2013), and its impact in areas like employment (Orhan and Scott, 2001), poverty alleviation and economic growth (Kreide, 2003) and other areas. Nevertheless, more effort is required to address the several facets of FE that are yet to be studied, in order to advance knowledge of the field.

To advance the research of a particular field, a synthesis of the work done by past researchers in the field is important, and even sometimes imperative (Zupic and Cater, 2015). Consequently, the progress of research on the FE sub-field depends to a large extent on a deeper knowledge and understanding of its past and a fuller grasping of its current stage which will then point to the various directions it is likely to go. Several researchers have carried out reviews of the literature on FE of the past decades. Some of those reviews have summarized the main topics researched, the perspectives considered, the methodologies employed, and the findings arrived at by previous FE researchers (e.g. Bowen and Hisrich, 1986; Birley, 1989; Brush, 1992). Other reviews have offered constructive criticisms of extant works on FE (e.g. Mirchandani, 1999; Ahl, 2006). Furthermore, other reviews such as that by Jennings and Brush (2013) have looked at how extant studies on FE collectively have impacted or might impact the literature of general entrepreneurship. Adopting a thematic approach, Poggesi et al. (2016) carried out a systematic literature review of the FE literature from 2000 to 2014. Others have conducted reviews on specific topics such as institutions and FE (Giménez and Calabrò, 2018), migration-based ethnic minority background and FE (Chreim,

Spence, Crick and Liao, 2018), gender and entrepreneurship in technology (Wheadon and Duval-Couetil, 2019), and the female business underperformance hypothesis (Dean, Larsen, Ford and Akram, 2019). All these reviews have considerably added to our knowledge on FE. However, these reviews are either based on expert opinions or on a limited number of articles from a limited numbers of years, which Tranfield, Denyer and Smart (2003) claim either lack rigor or suffer from researcher bias. A notable exception is the study by Baker et al. (1997) that employed bibliographic analysis to study the publication patterns between 1982 and 1995 with the aim of investigating the visibility of women business owners both in academic and journalistic publications. The past reviews have also not shown whether and how findings from FE research have influenced public policy on FE.

This paper differs from past reviews in a number of significant ways. First, by means of bibliometric methods we map out the evolution of the FE research over a period of 35 years, from 1986-2020 inclusive. Since FE research started appearing consistently in academic journals in the mid 1980s, this covers a longer period than previous reviews. Second, this review also goes further to identify the contributors to FE research in terms of the authors, their institutional affiliation at the time of contribution, their sex, and the outlets through which FE research articles have been published. The aim is to find out whether advancement in FE research is a concern for both male and female researchers or it is exclusively a niche for female researchers only. The review also employs the “5Ms” framework of FE proposed by Brush, De Bruin and Welter (2009) to find out whether FE research findings along the 5Ms have impacted public policy on FE of both developed and developing nations.

With this we seek answers to the following questions:

How has FE research evolved over the period under study?

How has the unique situation of women in different environments been considered by researchers in investigating female-owned ventures?

How has the revealed mediatory role of “motherhood” and “meso/macro environments” in FE influenced public policies on FE of both developed and developing countries?

The rest of the article is structured as follows. The following section presents the methods used in conducting the study, the third section reports the publication dynamics and analysis of the contents of the literature. The fourth section presents the past and current trends of the FE literature, put into five categories in line with the “5Ms” framework of FE proposed by Brush, De Bruin and Welter (2009). In addition to the presentation of the trends of research on FE gleaned from a co-word analysis, proposals are made for future research. We then consider how the FE policies of the OECD/EU and the government of one West African country — Ghana — appear to have been influenced by FE research findings. The fifth section contains the conclusions of the study.

## **2. Methods**

Even though the use of bibliometric methods to map research fields is not a new phenomenon (see Kessler, 1963; Small, 1973), their surge to prominence and widespread use in recent years have been due largely to the multiplication of readily available and easily accessible online databases, and the proliferation of computer software for performing bibliometric analysis (Zupic and Cater, 2015). Bibliometric methods come as a complement and sometimes as a complete substitute for the traditional literature reviews such as the systematic and the narrative reviews. Researchers consider bibliometric analysis to be an innovative methodology in the execution of literature reviews (De Bakker, Groenewegen, and Den Hond, 2005). Bibliometric methods make use of a quantitative approach to describe, evaluate and observe research that has been published, thereby injecting some orderliness and transparency into the review process. They infuse a measure of objectivity into the review of scientific literature (Garfield, 1979), thus making reproducibility by other researchers possible. Hence the subjectivity of the researcher usually embedded in the traditional reviews is avoided.

According to Cobo et al. (2011), bibliometric methods have two main uses — performance analysis and science mapping. Performance analysis looks at the dynamics of the research and publication performance of individual researchers and institutions, whilst science mapping attempts to demonstrate the evolution, structure and dynamics of scientific fields. This study conducts both performance analysis using various bibliometric indicators, and science mapping by means of co-word analysis. The aim is to identify contributors to the FE research in terms of authors, institutions and countries and to map publications under the 5Ms of FE.

In order to carry out the performance analysis of the FE research we conducted a bibliometric analysis of journals that have published at least one article on the sub-field and that are found in the Social Science Citation Index. We included articles from the following categories: ‘business’, ‘business finance’, ‘economics’, ‘management’, ‘sociology’ and ‘women’s studies’. The review covers a period of 35 years, from 1986 to 2020. Our analysis period begins in 1986 for two reasons. First, the research on FE began to take momentum in the mid 1980s and so we saw 1986 as an appropriate year to start from. Second, the availability of digital records on FE in the Web of Science database with the search terms we employed starts from 1986 and since our analysis is based on such digital records, starting from 1986 was an obvious choice.

For the review, we considered only documents classified as ‘articles’ published in English. The decision to include only articles was influenced by the fact that articles are known to go through a more rigorous peer review process before acceptance and publication, thus making them capable of being considered scientific knowledge, as well as the results of original research (Callon et al., 1986; Benavides-Velasco et al., 2013).

A number of measures are employed to carry out the performance analysis — the publication activity of units of interest. One of the ways is by calculating the number of papers published by a particular unit of analysis. These could be journals, authors, institutions, or countries in a particular period (Callon et al., 1986). Through this performance analysis we quantitatively studied how the literature on FE has evolved over the period under study and also discovered the academic journals that have published the most articles in the subfield and the impact those have created through the number of citations they have had, and how that has evolved over the years. The institutions as well as the countries with the highest number of academic articles in FE are also considered through the performance analysis. We also observed the demographic details in terms of the sex of the most prolific contributors (authors) to FE research. We used HistCite to conduct the performance analysis. HistCite is a quantitative method employed to analyze systematic literature reviews (Zupic and Cater, 2015). HistCite is a software that is useful in conducting bibliometric analysis through the generation of chronological tables of authors, institutions, journals, countries, as well as both local and global citations (Thelwall, 2008).

A co-word technique was adopted as data analysis method together with other complementary content analysis techniques to map the evolution of the FE literature. Since the co-word technique involves the analysis of the co-occurrences of terms such as keywords and subject headings, thereby allowing for the demonstration of the state and dynamics and relatedness of the major themes of a scientific field (Bhattacharya and Basu, 1998), we combined it with in-depth content analysis of the articles in order to ascertain which “M” the main theme of a particular article addresses according to the 5Ms of FE. We used the VOSviewer analytical tool to conduct our science mapping. VOSviewer has been used in several previous studies (e.g. Vosner et al., 2017; Byington et al., 2019; Sarkodie and Strezov, 2019) to conduct bibliometric science mapping of diverse fields. VOSviewer is frequently employed to conduct bibliometric analysis such as thematic analysis, cluster analysis, and cartography (Yuan et al., 2017; Kokol et al., 2018; Llanos-Herrera and Merigo, 2019).

We built a database of 1513 articles that focus on FE in order to conduct the study. These articles were published in any journal of the categories: ‘business’, ‘business finance’, ‘economics’, ‘management’, ‘sociology’ and ‘women’s studies’ of the Social Science Citation Index made available online through the Thomson Reuters Web of Science (WOB) service. The Thomson Reuters Web of Science (WOS) database is an online scientific information database which includes scientific documents and research papers across several disciplines. This database affords researchers the opportunity to access a wide range of research papers and other documents contained in scientific journals, books, conference proceedings, book chapters and so on in all scientific fields of study (Albort-Morant and Ribeiro-Soriano, 2016). Journals included in the WOS database are

known to have an impact factor as reported in the Journal Citation Report (JCR). The data was downloaded on the 15<sup>th</sup> of October, 2021.

We carried out searches in the online versions of all the journals in the selected categories. We used 'female entrepreneur\*', 'wom\* entrepreneur\*', 'wom\* business owner\*', 'female business own\*' as search terms for our query. We searched from titles, keywords and abstracts of papers in the journals of the selected subject categories. The search resulted in a list of 1513 articles published in 379 journals by 2,970 authors during the selected period.

### **3. Performance Analysis on Female Entrepreneurship: Evolution and Contributors**

In order to measure existing publication activities, Cadavid-Higuita et al. (2012) propose three types of indicators — quantity, quality and structural. Quantity indicators measure the number of publications in the field and or period under study, quality indicators measure the impact that the publications have made using the number of citations, whilst structural indicators measure the links that exist between the different authors and the works produced. This review concentrates on the quantitative and to a lesser extent the qualitative indicators. The structural measures are beyond the scope of this paper, as this review seeks primarily to map the domain in terms of how it has evolved over the period and not necessarily who have spearheaded the evolution with what works.

#### **3.1. Yearly Publication Output**

Table 1 shows the yearly output of FE articles that were published in the journals of the selected subject categories of the SSCI from 1986 to 2020. FE research has been on the ascendancy in the last decade as can be seen from Table 1. The continuous rise in the number of articles on FE appearing in many top-rated management and economics journals in the last decade suggests that more research is being carried out on FE with more rigor and high quality, therefore pointing to a continuous evolution of the sub-field.

**Table 1.** Yearly article output 1986-2020

Publication Year	Number of articles	Percent	TLCS	TGCS
1986	1	0.1	35	142
1988	2	0.1	54	144
1989	1	0.1	19	78
1990	8	0.5	187	647
1991	1	0.1	57	152
1992	2	0.1	21	141
1993	7	0.5	130	620
1994	11	0.7	77	1696
1995	9	0.6	77	926
1996	7	0.5	96	449
1997	13	0.9	159	1070
1998	14	0.9	255	2589
1999	11	0.7	25	302
2000	17	1.1	183	1763
2001	16	1.1	283	1710
2002	14	0.9	115	1070
2003	20	1.3	172	2174
2004	13	0.9	202	1160
2005	24	1.6	263	2620
2006	26	1.7	497	2502
2007	39	2.6	588	4672
2008	31	2	189	2235
2009	44	2.9	459	2652
2010	37	2.4	171	2468
2011	59	3.9	239	2037
2012	68	4.5	599	3680
2013	60	4	554	3246
2014	78	5.2	314	2709
2015	103	6.8	362	2948
2016	115	7.6	246	2601
2017	125	8.3	231	1994
2018	132	8.7	136	1620
2019	185	12.2	176	2092
2020	183	12.1	33	769
Unknown	37	2.4	0	49
TOTAL	1513	100	7204	57,727

Note:

TLCS stands for Total Local Citation Score – the number of citations received from the collection of articles in our dataset.

TGCS stands for Total Global Citation Score – the number of citations received globally.

The year 1987 is missing because there were no articles on FE found for this year.

### 3.2. Most Productive Journals

Table 2 shows the list of the top twenty-nine journals within the Thomson Reuters Web of Science (WOS) database that have published at least eight articles on FE between 1986 and 2020. FE is a research area that concerns not only scholars in management but also across others fields such as gender studies, sociology and others. It is therefore not surprising that in addition to journals of business, management, economics and finance, FE articles also appear prominently in other journals. However, the first three positions are taken by business, management, and economics. The fifth position is occupied by *Gender Work and Organization* with forty-eight papers, indicating clearly that FE is an area that also attracts the interest of non-business journals.

The impact created by the journals represented in our sample are also shown using both total local citation score (TLCS) — the number of citations received from the collection of articles in our dataset, and total global citation score (TGCS) — the number of citations received globally. The TLCS and TGCS are calculated by the HistCite analytical software based on the citation records of the various articles downloaded from WOS.

**Table 2.** Most productive journals

Journal	Number of articles	Percent	TLCS	TGCS
SMALL BUSINESS ECONOMICS	107	6.8	793	4334
JOURNAL OF SMALL BUSINESS MANAGEMENT	61	3.9	583	2995
JOURNAL OF BUSINESS VENTURING	54	3.4	1250	8779
INTERNATIONAL JOURNAL OF ENTREPRENEURIAL BEHAVIOR & RESEARCH	49	3.1	60	512
GENDER WORK AND ORGANIZATION	48	3.1	300	1588
INTERNATIONAL ENTREPRENEURSHIP AND MANAGEMENT JOURNAL	45	2.9	138	1311
ENTREPRENEURSHIP THEORY AND PRACTICE	44	2.8	1111	5999
GENDER IN MANAGEMENT	43	2.7	17	186
INTERNATIONAL SMALL BUSINESS JOURNAL-RESEARCHING ENTREPRENEURSHIP	41	2.6	240	1773
JOURNAL OF BUSINESS ETHICS	41	2.6	236	3019
ENTREPRENEURSHIP AND REGIONAL DEVELOPMENT	38	2.4	281	1633
WORLD DEVELOPMENT	28	1.8	64	740
WOMENS STUDIES INTERNATIONAL FORUM	24	1.5	27	337
JOURNAL OF BUSINESS RESEARCH	22	1.4	36	449
MANAGEMENT DECISION	17	1.1	35	279
GENDER PLACE AND CULTURE	16	1	9	134
AFRICAN JOURNAL OF BUSINESS MANAGEMENT	13	0.8	24	130
FEMINIST ECONOMICS	13	0.8	31	235
APPLIED ECONOMICS	11	0.7	7	75
ASIAN WOMEN	11	0.7	0	20
GENDER & SOCIETY	11	0.7	29	270



JOURNAL OF TECHNOLOGY TRANSFER	11	0.7	35	207
BRITISH JOURNAL OF MANAGEMENT	10	0.6	36	300
JOURNAL OF DEVELOPMENT STUDIES	9	0.6	19	111
JOURNAL OF FAMILY AND ECONOMIC ISSUES	9	0.6	2	31
ORGANIZATION STUDIES	9	0.6	82	650
HUMAN RELATIONS	8	0.5	57	358
JOURNAL OF MANAGEMENT & ORGANIZATION	8	0.5	27	159
RESEARCH POLICY	8	0.5	12	318

### 3.3. Most Productive Countries

A total of 1438 institutions composed of mostly universities and research institutions located in ninety-six countries were the source of at least one of the articles included in our dataset. However, only thirty-two of those countries produced ten articles or more of the total number of articles studied in this paper (1513 articles; see Table 1). Table 3 below contains the number of articles on FE produced by the top thirty-two countries within the study period, producing at least ten articles, ranked from highest to lowest. The impact created by those countries through citations is also shown.

**Table 3.** Most productive countries

Country	Number of articles	Percent	TLCS	TGCS
USA	532	35.2	3282	26925
UK	269	17.8	1445	10532
Canada	130	8.6	994	5341
Spain	104	6.9	202	3339
Australia	75	5	279	3136
Netherlands	73	4.8	418	3315
Germany	71	4.7	234	2155
China	68	4.5	109	1143
Sweden	54	3.6	350	2062
Italy	50	3.3	306	2060
France	45	3	59	898
Norway	34	2.2	133	1900
India	29	1.9	33	399
Denmark	23	1.5	59	925
New Zealand	23	1.5	72	1092
South Africa	23	1.5	14	186
Poland	21	1.4	49	350
Turkey	20	1.3	192	951
Belgium	19	1.3	41	555

Finland	18	1.2	65	438
Portugal	18	1.2	14	218
Pakistan	16	1.1	5	155
Israel	15	1	30	264
Malaysia	14	0.9	9	211
United Arab Emirates	13	0.9	126	586
Singapore	12	0.8	28	274
Chile	11	0.7	14	122
Ireland	11	0.7	13	135
Japan	11	0.7	6	144
South Korea	11	0.7	13	87
Czech Republic	10	0.7	1	165
Switzerland	10	0.7	24	249

### 3.4. Most Productive Institutions

Table 4 shows the first thirty-three institutions producing at least nine papers on FE within the period under study. All the institutions that published at least nine articles on FE are universities except two — the World Bank, and IZA Institute of Labour Economics, a private, independent economic research institute. The TLCS and TGCS are also presented indicating the impact the institutions have created with their publications. The fact that the World Bank makes it to the third position in terms of the number of papers produced on FE suggests that the global importance attached to FE is phenomenal. This possibly points to the fact that the issue of women engaging in entrepreneurship is not just a subject of discussion and theorizing among academics in universities but also an issue of concern and research for world economic bodies. HistCite assigns articles to institutions based on the affiliations of the authors found in WOS. An article is assigned to as many institutions as authors indicate their affiliation to them on the article. For instance, if an author mentions two affiliations on the article, and the two affiliations are captured by WOS, HistCite would assign the article to both institutions. The same logic holds for the country affiliations in Table 3.

**Table 4.** Most productive institutions

<b>Institution</b>	<b>Number of articles</b>	<b>Percent</b>	<b>TLCS</b>	<b>TGCS</b>
University of North Carolina	32	2.1	236	1350
Babson College	25	1.7	448	2494
World Bank	23	1.5	100	1001
Indiana University	17	1.1	43	1113
Brock University	15	1	45	245
University of Alberta	14	0.9	356	1350
University of Lancaster	14	0.9	117	563
University of Nottingham	14	0.9	96	417
Erasmus University Rotterdam	13	0.9	195	1154
Harvard University	13	0.9	57	960
Radboud University of Nijmegen	13	0.9	140	712
Stockholm University	13	0.9	31	152
Kozminski University	12	0.8	43	221
University of Edinburgh	12	0.8	97	425
University of Strathelyde	12	0.8	201	798
University of Toronto	12	0.8	155	1348
University of Valencia	12	0.8	16	265
University of Liverpool	11	0.7	19	213
University of Birmingham	10	0.7	128	611
University of Illinois	10	0.7	95	1528
University of Ottawa	10	0.7	76	298
University of Southern Denmark	10	0.7	34	191
University of Wisconsin	10	0.7	34	218
Copenhagen Business School	9	0.6	18	221
IZA	9	0.6	55	330
Jonkoping University	9	0.6	200	618
Northeastern University	9	0.6	117	489
Syracuse University	9	0.6	98	456
University of British Columbia	9	0.6	121	552
University of Leeds	9	0.6	10	244
University of South Florida	9	0.6	32	196
University of Siegen	9	0.6	45	712
University of Sussex	9	0.6	33	182

### 3.5. Most Productive Authors

FE is a field that interests many researchers from diverse fields. Table 5 shows the number of articles produced, the TGCS and TLCS and the sex of the top seventeen most productive authors, publishing at least six articles within the period under study. From Table 5, only four of the seventeen authors are male. This gives the impression that FE is predominantly researched by female researchers.

**Table 5.** Most prolific authors

Author	Sex	Number of articles	Percent	TLCS	TGCS
Brush Candida G.	F	16	1.1	332	1688
Marlow Susan	F	15	1	293	1150
Welsh Dianne HB	F	13	0.9	47	240
Essers Caroline	F	11	0.7	140	681
Kaciak Eugene	M	11	0.7	43	208
Gupta Vishal K.	M	10	0.7	214	930
Welter Friederike	F	10	0.7	166	1085
Carter Sara	F	8	0.5	198	755
McAdam Maura	F	8	0.5	75	301
Orser Barbara	F	8	0.5	46	186
Patel Pankaj C.	M	7	0.5	8	77
Ahl Helene	F	6	0.4	147	445
Berglund Karin	F	6	0.4	26	105
Hechavarría Diana M.	F	6	0.4	26	137
Jennings Jennifer E.	F	6	0.4	287	965
Urbano David	M	6	0.4	26	248
Verheul Ingrid	F	6	0.4	168	825

#### **4. Trends and Possible Future Directions in Female Entrepreneurship Literature**

In this section, we present the results of the science mapping — the evolution, structure and dynamics of FE. The goal of this section is to evaluate the major trends in the research of the FE sub-field using the “5Ms” (Market, Money, Management, Motherhood, Meso/macro environment) framework of FE proposed by Brush et al. (2009) as the guiding light. The potential research directions the discipline is likely to take in the future are also suggested. To achieve this two-fold aim, a co-word analysis was performed to identify the topics that have been studied and the areas that are emerging in FE research. Following Volberda et al. (2010), we considered the most frequent keywords (occurring 6 or more times in our case) of the 1,513 articles, resulting in 95 “most relevant and discriminative” (p. 938) keywords after correcting for spelling variations of words. We then applied the VOSviewer clustering analysis to categorize the 95 keywords into 6 clusters according to the 5Ms framework. We arrived at 6 clusters because we chose to split the “Meso” and “Macro” “Ms” into two separate clusters for the sake of analysis.

Table 6 below shows the six clusters and their corresponding “Ms” with some of the keywords that define them. It is worth mentioning that though there are no overlaps in the VOSviewer clustering, the distance between two items indicates the degree of relatedness of the items. From the network visualization map in Figure 1 therefore, keywords belonging to different clusters appear close to one

another. We created a map using VOSviewer in which keywords belonging to the six different clusters can be seen in the midst of other clusters thereby showing the relatedness of the FE research subdomains. Figure 1 below is the network visualization map showing the groups of keywords occurring together in publications from clusters. Clusters are represented by colors and all keywords belonging to the same cluster share the same color. The size of a cluster is determined by the number of co-occurring keywords represented by balls. The size of the balls is determined by the weight of the keyword, and in this case, the weight refers to the number of publications in which the keyword occurs.

**Table 6.** Co-words identified according to the “Ms” of FE

Clusters	Categories (M)	Co-words
Clusters 1	Market	Economic growth, embeddedness, enterprises, entrepreneurial orientation, environment, growth, human capital, industry, innovation, intentions, knowledge, legitimacy, nascent entrepreneurship, networks, opportunity, opportunity identification, performance, resources, social capital, support, technology, venture capital, women-owned businesses
Clusters 2	Money	Access, bank loan officers, credit, credit market, economy, finance, gender discrimination, income, information, investment, liquidity constraints, microcredit, microfinance, poverty, market, small businesses, start-ups, women empowerment
Clusters 3	Management	Attitudes, creation, culture, decision-making, education, entrepreneurial intention, entrepreneurialism, entrepreneurship education, gender differences, motivation, nascent entrepreneurs, perceptions, personality, self-efficacy, work values
Clusters 4	Macro environment	Children, context, earnings, economic development, family business, female entrepreneurship, institutions, occupational choice, preferences, self-employment, sex-differences, unemployment
Clusters 5	Meso environment	Community, ethnicity, female entrepreneurs, feminism, gender, identity, labour-force participation, masculinity, migration, race
Clusters 6	Motherhood	Child-care, conflict, employment, experience, family, motherhood, work-family conflict, career



society and cultural norms, for example reflected in media representation of female entrepreneurs” (p. 9). In studying the female entrepreneur and her business therefore, and in addition to considering the skills and or capabilities she possesses (management); her accessibility to financial capital to finance her business venture (money), and the availability and her accessibility to the necessary market for her products or services (market), her family or household conditions (motherhood) and the cultural practices, social norms and environmental dictates (meso/macro environment) must also be taken into account. In looking at the trends of FE over the past three decades through the lenses of the 5Ms, the first 3Ms that Bates et al. (2007) see to be the building blocks of entrepreneurship are mediated by the last 2Ms added by Brush et al. (2009).

#### 4.1.1. “Market”

Market is one of the foundation stones of entrepreneurship (Bates et al., 2007) the access to which an entrepreneur will need in order to start a business (Schumpeter, 1934; Shane, 2003). The identification of a potential market for a product or service epitomizes the identification of an entrepreneurial opportunity. Market according to Brush et al. (2009) encapsulates opportunity. Researchers since the 1980s and 90s have studied the characteristics of female entrepreneurs so as to determine what impels women into becoming entrepreneurs. Researchers such as Bowen and Hisrich (1986) sought to understand what determines women’s decision to pursue entrepreneurship as a career. Using Shapero and Sokol’s (1982) framework which makes the distinction between necessity-driven (push) and opportunity-based (pull) determinants of entrepreneurship as the theoretical lens, researchers have studied the antecedents of FE through the 1980s and 1990s with little varying results (Poggesi et al., 2016). Building on this framework, Brush (1990) identified factors belonging to either the push or pull divides that get women into entrepreneurship. With scholars still debating which factors (push or pull) influence more women’s decision to become entrepreneurs, calls have been made to look at the phenomenon from a different perspective instead of the continual separation of female entrepreneurs’ family lives from their working or professional lives which are most often than not intertwined (Kirkwood, 2009). This is where the mediation of the family context (motherhood) of the individual women entrepreneurs comes in. Scholars have indicated that the number of children a woman has, coupled with their being young (Carr, 1996; Dunn and Holtz-Eakin, 1995) is positively related to the likelihood of her becoming an entrepreneur (Caputo and Dolinsky, 1998; Boden, 1999). Williams (2004) also observed that women choose to engage in entrepreneurship either at home or outside of home in order to have enough time for their children. Kirkwood (2009) more recently found that children influence

women's motivations to become entrepreneurs and not those of men. Okamuro and Ikeuchi (2017) report that working mothers with preschool children prefer self-employment to paid employment, since self-employment provides for a better work-life balance than paid employment. McGowan et al. (2012) found that the quest for a balance between working and family responsibilities motivated Irish women to venture into entrepreneurship. Whilst some scholars have documented the role of children or family responsibilities in women's decision to become entrepreneurs, others have also found that women's quest to support their families economically has made them become entrepreneurs (Chu, 2000; Terjesen and Amorós, 2010).

Thus, past research has confirmed the mediation of "motherhood" in women's decision to find or create a market and engage in entrepreneurship, and produce goods or services for that market. We propose that further studies be conducted with different methodologies other than the traditional survey methods to study why women become entrepreneurs. Future research would also contribute to knowledge by revealing how the push or pull factors might change over time in the course of the life of the business and the motherhood situation of the women entrepreneurs. Finding out how women entrepreneurs cope with the demands of both family and business is another aspect of FE worth revealing as several scholars (e.g. Kirkwood and Tootell, 2008; Patterson and Mavin, 2009) have shown that entrepreneurship, contrary to the expectations and thoughts of many people, is not the solution to the work-family quagmire.

Market (seeking, creating, or exploiting existing opportunities) is also mediated by the meso/macro environments in which female entrepreneurs are embedded (Brush et al., 2009). One of the mediators of the ability of women to engage in entrepreneurship is gender roles that a particular environment assigns to each gender. For instance, Mair and Marti (2009) reported that women in some parts of rural Bangladesh were not permitted by local cultural and religious norms to even go to the market much less undertake any economic venture. The same authors reported that women could interact with only family members and not outsiders, especially of the opposite sex. And considering the importance of networks in opportunity identification and subsequent business success, and the fact that networks emanate from social interactions (Poggesi et al., 2016), these meso environment factors seriously influence women's opportunity recognition and subsequent exploitation.

In addition to the meso environment factors, macro environment factors also mediate the market "M" for female entrepreneurs. Macro environment usually encompasses national level policies, culture, law, available national infrastructure, etc. (Pitelis, 2005). Scholars have studied the role of these environmental factors in the decision and ability of women to become entrepreneurs. Female education is one construct that influences all the other "Ms" of FE. Scholars over the years have studied the role of female education on their likelihood to become entrepreneurs and have found that education is



positively and significantly related to FE (e.g. Carr, 1996; Dolinsky et al., 1993). Kobeissi (2010) reported that female education, even if not related to business management, can assist women entrepreneurs to ably present their business plans and financial information to impress loan officers and influence their decisions. This therefore positively impacts their entering into entrepreneurship.

Another macro environment factor that has been studied in relation to FE is migration. Even though immigrant entrepreneurship as a phenomenon is not new in general entrepreneurship literature (see Light, 1984; Waldinger et al., 1990), its link to gender is a concept that is relatively new. The movement of women away from their home countries has increased over the years even though these women's entry into the formal labor-market has not been rising in equal proportions (Poggesi et al., 2016). The authors contend that these women, finding it difficult if not impossible to get into the formal labor market, might find themselves having to turn to entrepreneurship as the only source of income. Thus, when immigrant women fail to get "market" for their skills in the formal labour market, they create one through entrepreneurship for themselves. Pio (2006, 2007) reported that immigrant Indian women in New Zealand employed entrepreneurship to find a balance between their "Indian past" and "New Zealand present". Essers and Benschop (2007, 2009) and Essers et al. (2010) found that Muslim immigrant women in the Netherlands used entrepreneurship as a means to cope with tensions that exist regarding their being immigrants and women. In effect, women finding themselves in foreign countries resort to dealing in ethnic and religious products and services to exploit the opportunities that their communities present in order to survive in the host countries (Billore et al., 2010; Heilbrunn and Abu-Asbah, 2011; Collins and Low, 2010).

#### 4.1.2. "Money"

Money is one of the enablers of entrepreneurial opportunity exploitation (Brush et al., 2009). Money's importance in entrepreneurship stems from the fact that without it to turn ideas into goods and services, lofty ideas may forever remain ideas and sometimes only in the heads of their originators. Conscious of this fact, several scholars have studied female entrepreneurs' access to financial capital with all the intricacies involved in gaining such access. Decades ago, Buttner and Rosen (1988, 1989) found that even though loan applicants were interviewed and assessed on their success or likelihood of success, characteristics of successful entrepreneurs were associated more to men than women. This perception which can be both a meso or macro environment factor mediated women entrepreneurs' access to financial capital. Riding and Swift (1990) studying the possible reasons for discrimination against women entrepreneurs in terms of access to bank loans, unearthed a number of mediating factors that are both motherhood and meso/macro environment related. They found out that female businesses tended to be

smaller, which several scholars have attributed to reasons of motherhood, that encourage if not compel women to keep businesses small in order to be able to manage alongside family responsibilities. Moreover, the predominant sole-proprietorship nature of female businesses, which can be attributed to both motherhood and meso/macro factors was found to be another source of discrimination against female business owners in terms of access to funding.

Future research would benefit the FE literature by looking at how motherhood and meso/macro environments affects female entrepreneurs' access to loans from microfinance institutions, since they are noted for providing funding to female businesses.

#### 4.1.3. "Management"

Management, which encompasses the skills and capabilities of entrepreneurs or the management teams of businesses, is often seen by the regular investors in small businesses as the most important of the three foundation stones of starting and running a business (Bates et al., 2007). The authors indicate that these very important skills and capabilities are usually acquired through education and business related experience. This business acumen acquired from various sources, usually determines the strategies, growth and performance of business ventures. Scholars over the years have attempted to study the management styles and business strategies of female entrepreneurs and their concomitant effects on female business performance and growth potentials (e.g. Orser et al., 2010; Farr-Wharton and Brunetto, 2009; Eriksson et al., 2008; Welch et al., 2008; Cliff et al., 2005). However, despite calls by scholars such as Bird and Brush (2002) to study the similarities and differences between men and women entrepreneurs in terms of the way they behave regarding which gender perspective the management of their ventures takes, there are still not many studies investigating the management styles of female business owners. Poggesi et al. (2016) attribute this to the sophisticated and complex nature of the methodologies required to unearth this phenomenon. They argue that in order to study this topic, women entrepreneurs would have to be studied "within their context, by specifically focusing on their interactions, tacit processes and often hidden beliefs and values" (p. 13).

We look at the trends of FE research on the "Management" "M" in terms of management styles, strategies, performance and growth.

##### 4.1.3.1. Management Styles

Female firms have a unique way of organizing their affairs (Chaganti, 1986; Westerberg, 1996). These researchers reveal that female firms usually have an organizational structure that is described as a "horizontal network". Holmquist

and Sundin (1990) and Farr-Wharton and Brunetto (2009) have indicated that management policies of female firms are often more relational and nurturing than directional and commanding, with decision making open to participation (Chaganti, 1986) especially when dealing with employees. This unconventional style of management made Carter et al. (1997) to conclude that women employ different management styles to run their ventures. This relational management style employed by women in the running of their ventures we propose, might be mediated by their natural roles as mothers. Eriksson et al. (2008) assert that the cooperative nature of women's style of management is not necessarily gendered in a particular way and that the context in which the entrepreneur operates contributes. This assertion is corroborated by Verheul (2018) who reported that female-led firms are more control-oriented than male-led firms.

Future research would contribute invaluable by investigating the motivation for women entrepreneurs' adoption of this more relational, consultative and democratic style of management and the impact of these management styles on performance. These findings would shed more light on the possible mediators of female management styles and how those styles lead to goal achievement.

#### 4.1.3.2. Strategies

Strategy is defined as a "plan of action that spells out an organization's goals and outlines the required resources and activities to achieve those goals" (Wagner et al., 1995, p. 618). Even though the strategies of female entrepreneurs, like those of others, are an important aspect of their ventures, there is a lack of studies in this area which scholars such as Brush (1992) have already highlighted. The unavailability of studies on this very important aspect of female business is attributed to two reasons by Poggesi et al. (2016): First, for the strategies of a business venture to be analyzed one needs to employ a longitudinal analytic method to analyse longitudinal data. Access to such data is particularly difficult in the opinion of the scholars. Second, small and young businesses, as is mostly the case with female businesses, seldom have well-developed strategies due to the unavailability of time and money, as compared to bigger and older more established ventures (Verheul et al., 2006; Lasher, 1999; Matthews and Scott, 1995). In many cases, women's businesses are small and perpetually young due to frequent career interruptions (Kaplan, 1988) and the primary duty of attending to family and the needs of children (Aldrich et al., 1989). With size and age likely affecting negatively the amount of money female enterprises have to enable them to draw up strategies for their operations, it is not far-fetched to propose that motherhood affects the strategies of female entrepreneurs. However, due to the phenomenal growth in the numbers of female-owned businesses and the remarkable increase in their contribution to economic growth and the creation of jobs in the last few decades in many countries around the world (Verheul et al.,

2006), scholars have defied the odds and studied some female ventures' internationalization strategies. Welch et al. (2008) studied the internationalization process of women business owners in Australia, looking at "gender as social identity" and not as dichotomous variable (male or female). They reported that women found exporting to be an experience that brought changes to their lives, with some being able to identify themselves as entrepreneurs, something they would hitherto not have done. The researchers also found that motherhood (women who had dependent children at the time they started exporting) slowed the rate at which export grew, as exporting mothers had to juggle between childcare and exporting activities. Orser et al. (2010) also considered the export propensities of female firms and reported that female-owned firms were underrepresented in the export arena. They explained that meso/macro environment factors such as immigrant status, owner's growth intention, subtle and even blatant discrimination resulting in gender bias affect female entrepreneurs' export activities.

Future studies would benefit and enrich the FE literature by looking at the forms of internationalization (direct exportation, indirect exportation, joint-ventures franchising, contracting) that is more beneficial to female entrepreneurs considering the impediments they face in internationalizing. Such findings would help build female firm exportation theories, and hence help grow female businesses through internationalization. Considering the effects that Covid-19 has had on businesses globally, finding out how female-owned ventures recover after a disaster would also enrich the FE literature.

#### 4.1.3.3. Performance

Research on female-owned business performance has traditionally been carried out by comparing the performance of female-owned ventures to that of male-owned ventures, producing mixed results (Du Rietz and Henrekson, 2000), with some scholars finding female businesses to be underperforming (Rosa et al., 1996; Holmquist and Sundin, 1988; Fischer, 1992; Fairlie and Robb, 2009) and others finding the contrary or at least neutral results (Kalleberg and Leicht, 1991; Johnson and Storey, 1993). Holmquist and Sundin (1988) however indicate that gender differences in performance are visible when the choice of industry is taken into consideration. Thus suggesting that industry-specificity, which is a meso/macro environment factor, mediates the performance of female businesses by showing that their performance in comparison to that of male-owned businesses in male dominant industries is lower. Other studies (e.g. Aterido and Hallward-Driemeier, 2011) indicate that the marital status of entrepreneurs — motherhood — counts in their performance, as unmarried women appear less capable of successfully managing ventures due to socio-cultural pressures on the women entrepreneurs in their study area — Sub-Saharan Africa. In the same vein, Roomi

(2013) studying female-owned business growth in Pakistan, mentions that motherhood and meso/macro environment factors consisting in Islamic religious obligations and immediate family demands play significant roles in female business performance. Fuentes-Fuentes et al. (2015) investigated Spanish women entrepreneurs and reported that entrepreneurial orientation (a meso/macro environment factor) is positively related to both operational and financial performance. Mari et al. (2016) have recently looked at how the family context (motherhood) may have an influence on the performance of Italian women-owned businesses. They reported that women business owners benefit from being pulled into entrepreneurship through some family ties that also help them to strike a balance between work and family responsibilities. This study reiterates the important role that family context plays on female venture creation, operation and performance.

Performance, no matter how it is measured, is seen to be at the heart of venture operation. It is necessary that further studies be conducted on what female business owners call “performance”, especially in developing economies. Several women are into entrepreneurship in developing economies and all these women might define performance differently. Further investigation would give a holistic picture of what women going into self-employment would term performance. This, as Welter et al. (2016) have encouraged, will help make theorizing in entrepreneurship more inclusive of the “everyday” entrepreneurs. However, some scholars such as Morris et al. (2006) argued that the reliance on only economic measures to evaluate the performance of female businesses is inappropriate considering the fact that women go into entrepreneurship for other equally, if not more important reasons such as getting a balance between family and work responsibilities, effectiveness, sense of independence, support for family, wellbeing, happiness, and many others. Studies (e.g. Powell and Eddleston, 2013; Kantor, 2005) have therefore subsequently considered success from both the economic and social perspectives. Kantor looked at “a two-dimensional concept of microenterprise success of women” in India, considering both economic benefits as well as empowerment outcomes as measures of success. In the researcher’s view, female empowerment (meso/macro environment factor) is a prerequisite for any real economic benefit to be meaningful. Powell and Eddleston (2013) looked at success to include economic measures and “entrepreneurial experience” — satisfaction with status and with employee relationships (meso/macro environment factors). Bögenhold and Klinglmair (2015) report that even though women run smaller companies and are mostly part-time self-employed, they enjoyed higher well-being and happiness. This further supports the notion that women do not engage in entrepreneurship just for economic benefit but for other benefits as well.

#### 4.1.3.4. Growth

Growth is generally said to be the aim of most business ventures (Manolova et al., 2012), with most people using it as the yardstick to measure the success of an entrepreneurial endeavor (Davidsson, 1991). However, irrespective of what onlookers might think, the decision for the growth of the venture is usually at the discretion of the entrepreneur whose initial reasons for starting the business ultimately play a role on its size over time (Wiklund et al., 2003; Cassar, 2007). Women-owned businesses have been growing in numbers over the years (Marlow and Carter, 2006), but in size and age they have largely remained small and young (Lerner et al., 1997; Verheul and Thurik, 2001). Researchers (e.g. Orser et al., 2006) have attributed this slowness in growth to the industries — retail and services (Van Uxem and Bais, 1996; Hisrich and Brush, 1983) in which women mostly choose to enter and which are traditionally slow in growth and highly competitive in nature (Orser et al., 2006). Other scholars have attributed the slow pace at which female ventures grow to the goals of the owners for starting their businesses. Bird and Brush (2002) found that female business owners often pursue social goals in addition to the economic ones. Thus, these social goals that might be competing with the economic goals may delay or even prevent the growth of those ventures. Brush et al. (2006) found that work-family balance for instance is more likely to influence women's business formation decision. In that case, if women are forming businesses in order to have a sound work-family balance, it is unlikely that they would want those businesses to grow beyond a certain size, the management of which will defeat the aim for which it was started. Women give more weight to personal considerations than to economic considerations when deciding to expand their businesses (Cliff, 1998). Orser and Hogarth-Scott (2002) reported that women sought and gave more value to the opinions of their spouses in their decision on the growth of their ventures. Thus, personal consideration which more often than not has to do with family context (motherhood), influences the growth decision of female entrepreneurs.

Further studies on the role of family networks on the growth intentions of female entrepreneurs, especially in developing economies, would be a fruitful addition to the FE literature. Family networks are said to be very important for women entrepreneurs especially those found in patriarchal societies (Kalafatoglu and Mendoza, 2017; Venkatesh et al., 2017). Grown-up children and other family members may serve as free labor and a source of expertise in the growth of female businesses, in which case, women entrepreneurs might not deny their businesses further growth beyond their initial intended sizes.

## 4.2. Influence of FE Research Findings on FE Public Policy

From the review above, researchers on FE have confirmed the mediatory role of “motherhood” and “meso/macro environment” on FE as posited by Brush et al. (2009). However, not much research has been done on how these findings have influenced the public policy of various countries on FE. This section looks at how FE policies of the OECD/EU and Ghana, a West African developing country resonate with FE research findings. We chose the OECD/EU to represent the developed world context, whilst Ghana represents the developing world context. The insights presented in this section are drawn from the OECD/EU’s 2017 policy brief for women’s entrepreneurship (OECD/European Union, 2017) and Ghana government’s 2015 national gender policy (Government of Ghana, 2015).

The OECD/EU uses the role models and ambassadors strategy where role model female entrepreneurs go round schools, universities and economic development events to attract and encourage women who might want to become entrepreneurs but are afraid or prevented by meso/macro environmental impediments to venture out with courage. The policy seems to have been informed by FE research findings as the policy document explicitly makes reference to Greene et al.’s (2011) findings that maternal role models positively influence their daughter’s self-employment propensities. Greene et al.’s (2011) findings are confirmed as the policy document reports that the role models and ambassadors policy has been impactful in Germany. The Ghanaian government has not included any policy measure in this direction.

Both policy documents have indicated that provision is made for entrepreneurship skills acquisition through training courses and mentoring. The OECD/EU document however refers to the findings by Fielden and Hunt (2011), which suggest that programmes targeting only women are more effective at getting women because they are more likely to learn of it and more comfortably participate in it. The OECD/EU governments have therefore provided business advice tailored towards only women through women’s enterprise/entrepreneurship centres (WECs). The aim has been to improve the availability and the quality of business development support for female entrepreneurs. The details of this programme and its exclusive aim of targeting only women is in line with research findings on female entrepreneurs (e.g. Fielden and Hunt, 2011). The OECD/EU document indicates this programme has been implemented successfully with positive results in France. Ghana’s policy document does not refer to any previous research findings informing the policy and also fails to indicate that it is exclusively for women. There is no mention of whether the training and mentoring programme has achieved any positive results or not.

The access to finance and financial literacy has been identified as important in addressing the impact of the 2Ms on the “money” M for female entrepreneurs. Both documents have indicated the provision of funding for women intending to

go into entrepreneurship to avoid the well-documented discrimination against women entrepreneurs regarding access to financial capital.

The OECD/EU policy document includes policies to promote work-life balance for female entrepreneurs that would allow women to run business and still raise children. The Ghana government's policy document lacks such policies such as paternity leave to enable husbands help in childcare whilst their wives manage their business, career leave, etc. This perpetuates career breaks for female entrepreneurs especially during turbulent pregnancies and childcare.

## **5. Conclusion**

We mapped out the evolution of FE research over a 35-year period (1986 – 2020), identifying the contributors to the sub-field in terms of authors, institutions and countries, and the impact they have created through citations. We considered the past and current trends of FE and suggested future research directions to further enrich FE literature. The trends were evaluated using the 5Ms framework of FE proposed by Brush et al. (2009), looking at how the first 3Ms (market, money and management) are mediated by the last 2Ms (motherhood and meso/macro environment) added by Brush and colleagues. We also looked at how FE research findings appear to have influenced public policy on FE from the OECD/EU and Ghanaian government's policy documents.

The analysis revealed that scholars over the years have unearthed the remarkable uniqueness of female-owned ventures, stemming from the different family contexts and environment dictates that women entrepreneurs find themselves in. The study showed that the opportunity identification and subsequent exploitation (market); the acquisition of financial resources (money) and the management styles, strategies, performance, and growth (management) of female entrepreneurs, are strongly mediated either by their family contexts (motherhood) or the expectations and norms of the societies in which they find themselves (meso/macro environment). For instance, the study showed that women who have young children and other family-related roles prefer entrepreneurship to paid employment. The same commitments determine the sizes and growth rate of their ventures, which in turn affect their access to financial capital. These factors according to scholars, do not often affect male-owned business in the same way. The review also revealed that female ventures, in addition to economic measures of performance, also attach importance to others such as well-being, family comfort, work-life balance, and many others. Several scholars (e.g. Bird and Brush, 2002; Brush et al., 2006) have found notable differences between female and male ventures, making the influence of the 2Ms on FE a reality.

Since the mid 1980s, FE research has evolved significantly. From seeking answers to what influences women's decision to seek or create markets within



which to engage in entrepreneurship, answers to which included the presence of children of preschool age, and cultural norms and societal expectations; scholars moved on to find out how their being women influences access to financial capital by women entrepreneurs. The answers to this, our analysis showed, have included the small nature of their businesses, often influenced by their childcare and other motherhood roles, as well as some environmental factors including their level of education and perceived management abilities. Researchers further inquired into the management styles of female entrepreneurs, reporting a relational nature of women's management styles, even though some studies such as Verheul (2018) reported finding the command kind of leadership by some women managers. Even though some of the questions investigated since the 1980s are still relevant and are being studied today, our analysis indicated that other topics such as the female business underperformance hypothesis, immigration's role in FE, and what constitutes "performance" for the female entrepreneur, are also being studied. Among other topics, future studies of FE are likely to be looking at how the passage of time and change in family circumstances affect women's entrepreneurial intentions. Other topics may include how female businesses recover from disasters, considering the effects of the ongoing Covid-19 pandemic and other disasters.

The unique role of women as mothers and home makers has been considered by some researchers in studying female-owned ventures. Researchers such as Morris et al. (2006) have argued that unlike men-owned businesses, only economic measures should not be used to evaluate the performance of female ventures, as some women go into entrepreneurship for reasons other than economic benefits. Thus, researchers have subsequently considered well-being, family support, empowerment, work-family balance, and other elements as part of performance measures for female ventures.

Policies on FE of the governments of the OECD/EU countries appear to have taken cognizance of the mediation of motherhood and micro/macro environment factors on FE. This is evident in the fact that their FE policy document has explicitly cited FE research papers to support FE policies. However, the policy document of the Ghanaian government has not cited any past research in support of the rather few policies aimed at promoting FE. Anti-discrimination laws and the existence and functioning of certain institutions might make the impact of the 2Ms on female venture creation and management less felt in developed economies. But past research (e.g. Kantor, 2005; Aterido and Hallward-Driemeier, 2011; Mair and Marti, 2009) has shown that the situation is certainly not the same in developing countries. This therefore calls for a continued research on FE as a distinct area of study to lay bare the peculiarities that exist for women business owners. Findings from the studies of general and FE are mutually enriching (Jennings and Brush, 2013). However, this mutual enrichment should not serve to obscure the differences that exist between the two groups of entrepreneurs. For, ignoring the peculiar contexts and conditions of the

entrepreneurs in studying their ventures, would be, as Baumol (1968) put it, “expunging the Prince of Denmark from the discussion of *Hamlet*”.

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## References:

- Ahl, H. (2006), “Why research on women entrepreneurs needs new directions”, *Entrepreneurship Theory and Practice*, 30(5): p 595-621.
- Albort-Morant, G. and Ribeiro-Soriano, D. (2016), “A bibliometric analysis of international impact of business incubators”, *Journal of Business Research*, 69(5): p 1775-1779.
- Aldrich, H., Reese, P.R. and Dubini, P. (1989), “Women on the verge of a breakthrough: Networking among entrepreneurs in the United States and Italy”, *Entrepreneurship & Regional Development*, 1(4): p 339-356.
- Aterido, R. and Hallward-Driemeier, M. (2011), “Whose business is it anyway?”, *Small Business Economics*, 37(4): article 443.
- Baker, T., Aldrich, H.E. and Nina, L. (1997), “Invisible entrepreneurs: The neglect of women business owners by mass media and scholarly journals in the USA”, *Entrepreneurship & Regional Development*, 9(3): p 221-238.
- Bates, T., Jackson III, W.E. and Johnson Jr, J.H. (2007), “Advancing research on minority entrepreneurship”, *Annals of the American Academy of Political and Social Science*, 613(1): p 10-17.
- Baumol, W.J. (1968), “Entrepreneurship in economic theory”, *American Economic Review*, 58(2): p 64-71.
- Benavides-Velasco, C.A., Quintana-García, C. and Guzmán-Parra, V.F. (2013), “Trends in family business research”, *Small Business Economics*, 40(1): p 41-57.
- Bhattacharya, S. and Basu, P. (1998), “Mapping a research area at the micro level using co-word analysis”, *Scientometrics*, 43(3): p 359-372.
- Billore, S., Zainuddin, A.H., Al-Haj, N. and Halkias, D. (2010), “Female immigrant entrepreneurship: A developing sector in Japan's entrepreneurial economy”, *Journal of Developmental Entrepreneurship*, 15(2): p 165-186.
- Bird, B. and Brush, C. (2002), “A gendered perspective on organizational creation”, *Entrepreneurship Theory and Practice*, 26(3): p 41-65.
- Birley, S. (1989), “Female entrepreneurs: Are they really any different?” *Journal of Small Business Management*, 27(1): p 32-37.
- Boden, R.J. (1999), “Flexible working hours, family responsibilities, and female selfemployment”, *American Journal of Economics and Sociology*, 58(1): p 71-83.
- Bögenhold, D., and Klinglmair, A. (2015), “Female solo self-employment — Features of gendered entrepreneurship”, *International Review of Entrepreneurship*, 13(1): p 47-58.
- Bowen, D.D. and Hisrich, R.D. (1986), “The female entrepreneur: A career development perspective”, *Academy of Management Review*, 11(2): p 393-407.
- Brush, C.G. (1990), “Women and enterprise creation: Barriers and opportunities”, In: S. Gould and J. Parzen (eds.), *Enterprising Women: Local Initiatives for Job Creation*, Paris: OECD, p 37-58.
- Brush, C.G. (1992), “Research on women business owners: Past trends, a new perspective and future directions”, *Entrepreneurship Theory and Practice*, 16(4): p 5-31.
- Brush, C.G., Carter, N.M., Gatewood, E.J., Greene, P.G. and Hart, M.M. (2006), “The use of bootstrapping by women entrepreneurs in positioning for growth”, *Venture Capital*, 8(1): p 15-31.
- Brush, C.G., De Bruin, A. and Welter, F. (2009), “A gender-aware framework for women's entrepreneurship”, *International Journal of Gender and Entrepreneurship*, 1(1): p 8-24.
- Buttner, E.H. and Rosen, B. (1988), “Bank loan officers' perceptions of the characteristics of men, women, and successful entrepreneurs”, *Journal of Business Venturing*, 3(3): p 249-258.
- Buttner, E.H. and Rosen, B. (1989), “Funding new business ventures: Are decision makers biased against women entrepreneurs?”, *Journal of Business Venturing*, 4(4): p 249-261.

- Byington, E.K., Felps, W. and Baruch, Y. (2019), "Mapping the journal of vocational behavior: A 23-year review", *Journal of Vocational Behavior*, 110(Part B): p 229-244.
- Cadavid-Higueta, L., Awad, G., and Franco-Cardona, J.C. (2012), "A bibliometric analysis of a modeled field for disseminating innovation", *Estudios Gerenciales*, 28(SPE): p 213-235.
- Callon, M., Law, J. and Rip, A. (eds.) (1986), *Mapping the Dynamics of Science and Technology: Sociology of Science in the Real World*, London: Macmillan Press.
- Caputo, R.K. and Dolinsky, A. (1998), "Women's choice to pursue self-employment: The role of financial and human capital of household members", *Journal of Small Business Management*, 36(3): p 8-17.
- Carr, D. (1996), "Two paths to self-employment? Women's and men's self-employment in the United States, 1980", *Work and Occupations*, 23(1): p 26-53.
- Carter, N.M., Williams, M. and Reynolds, P.D. (1997), "Discontinuance among new firms in retail: The influence of initial resources, strategy, and gender", *Journal of Business Venturing*, 12(2): p 125-145.
- Cassar, G. (2007), "Money, money, money? A longitudinal investigation of entrepreneur career reasons, growth preferences and achieved growth", *Entrepreneurship & Regional Development*, 19(1): p 89-107.
- Chaganti, R. (1986), "Management in women-owned enterprises", *Journal of Small Business Management*, 24(4): p 18-29.
- Chreim, S., Spence, M., Crick, D., and Liao, X. (2018), "Review of female immigrant entrepreneurship research: Past findings, gaps and ways forward", *European Management Journal*, 36(2): p 210-222.
- Chu, P. (2000), "The characteristics of Chinese female entrepreneurs: Motivation and personality", *Journal of Enterprising Culture*, 8(1): p 67-84.
- Cliff, J.E. (1998), "Does one size fit all? Exploring the relationship between attitudes towards growth, gender, and business size", *Journal of Business Venturing*, 13(6): p 523-542.
- Cliff, J.E., Langton, N. and Aldrich, H.E. (2005), "Walking the talk? Gendered rhetoric vs. action in small firms", *Organization Studies*, 26(1): p 63-91.
- Cobo, M.J., López-Herrera, A.G., Herrera-Viedma, E. and Herrera, F. (2011), "Science mapping software tools: Review, analysis, and cooperative study among tools", *Journal of the American Society for Information Science and Technology*, 62(7): p 1382-1402.
- Collins, J. and Low, A. (2010), "Asian female immigrant entrepreneurs in small and medium-sized businesses in Australia", *Entrepreneurship & Regional Development*, 22(1): p 97-111.
- Davidsson, P. (1991), "Continued entrepreneurship: Ability, need, and opportunity as determinants of small firm growth", *Journal of Business Venturing*, 6(6): p 405-429.
- Davidsson, P. (2003), "The domain of entrepreneurship research: Some suggestions", In: Katz, J.A. and Shepherd, D.A. (eds.), *Cognitive Approaches to Entrepreneurship Research*, Bingley, UK: Emerald Group Publishing Limited, p 315-372.
- De Bakker, F.G., Groenewegen, P. and Den Hond, F. (2005), "A bibliometric analysis of 30 years of research and theory on corporate social responsibility and corporate social performance", *Business & Society*, 44(3): p 283-317.
- De Bruin, A., Brush, C.G. and Welter, F. (2006), "Introduction to the special issue: Towards building cumulative knowledge on women's entrepreneurship", *Entrepreneurship Theory and Practice*, 30(5): p 585-593.
- Dean, H., Larsen, G., Ford, J. and Akram, M. (2019), "Female entrepreneurship and the metanarrative of economic growth: A critical review of underlying assumptions", *International Journal of Management Reviews*, 21(1): p 24-49.
- Dolinsky, A.L., Caputo, R.K., Pasumarty, K. and Quazi, H. (1993), "The effects of education on business ownership: A longitudinal study of women", *Entrepreneurship Theory and Practice*, 18(1): p 43-53.
- Dunn, T. and Holtz-Eakin, D. (1995), "Capital market constraints, parental wealth and the transition to self-employment among men and women", National Longitudinal Surveys Discussion Paper. Washington, DC: Bureau of Labor Statistics.
- Du Rietz, A. and Henrekson, M. (2000), "Testing the female underperformance hypothesis", *Small Business Economics*, 14(1): p 1-10.

- Eriksson, P., Henttonen, E. and Merilainen, S. (2008), "Managerial work and gender — Ethnography of cooperative relationships in small software companies", *Scandinavian Journal of Management*, 24(4): p 354-363.
- Essers, C. and Benschop, Y. (2007), "Enterprising identities: Female entrepreneurs of Moroccan or Turkish origin in the Netherlands", *Organization Studies*, 28(1): p 49-69.
- Essers, C. and Benschop, Y. (2009), "Muslim businesswomen doing boundary work: The negotiation of Islam, gender and ethnicity within entrepreneurial contexts", *Human Relations*, 62(3): p 403-423.
- Essers, C., Benschop, Y. and Doorewaard, H. (2010), "Female ethnicity: Understanding Muslim immigrant businesswomen in the Netherlands", *Gender, Work & Organization*, 17(3): p 320-339.
- Fairlie, R.W. and Robb, A.M. (2009), "Gender differences in business performance: Evidence from the Characteristics of Business Owners survey", *Small Business Economics*, 33(4): p 375-395.
- Farr-Wharton, R. and Brunetto, Y. (2009), "Female entrepreneurs as managers: The role of social capital in facilitating a learning culture", *Gender in Management: An International Journal*, 24(1): p 14-31.
- Fielden, S.L. and Hunt, C.M. (2011), "Online coaching: An alternative source of social support for female entrepreneurs during venture creation", *International Small Business Journal*, 29(4): p 345-359.
- Fischer, E. (1992), "Sex differences and small-business performance among Canadian retailers and service providers", *Journal of Small Business & Entrepreneurship*, 9(4): p 2-13.
- Fuentes-Fuentes, M. del Mar, Bojica, A.M. and Ruiz-Arroyo, M. (2015), "Entrepreneurial orientation and knowledge acquisition: Effects on performance in the specific context of women-owned firms", *International Entrepreneurship and Management Journal*, 11(3): p 695-717.
- Garfield, E. (1979), "Is citation analysis a legitimate evaluation tool?", *Scientometrics*, 1(4): p 359-375.
- Giménez, D., and Calabrò, A. (2018), "The salient role of institutions in Women's entrepreneurship: A critical review and agenda for future research", *International Entrepreneurship and Management Journal*, 14(4): p 857-882.
- Government of Ghana (2015), *National Gender Policy*, Accra: Ministry of Gender, Children and Social Protection, Republic of Ghana.
- Greene, F., Liang, H. and Marlow, S. (2011), "Like mother, like daughter? Analyzing maternal influences upon women's entrepreneurial propensity", *Entrepreneurship Theory and Practice*, 37(4), p 687-711.
- Heilbrunn, S. and Abu-Asbah, K.M. (2011), "Disadvantaged and embedded: Arab women entrepreneurs in Israel", *International Journal of Business and Social Science*, 2(11): p 45-55.
- Hisrich, R.D. and Brush, C.G. (1983), "The woman entrepreneur: Implications of family, educational, and occupational experience", *Frontiers of Entrepreneurship Research*, 2(1983): p 255-270.
- Holmquist, C. and Sundin, E. (1988), "Women as entrepreneurs in Sweden — Conclusions from a survey", *Frontiers of Entrepreneurship Research*. Wellesley, MA: Babson College.
- Holmquist, C. and Sundin, E. (1990), "What's special about highly educated women entrepreneurs?", *Entrepreneurship & Regional Development*, 2(2): p 181-194.
- Jennings, J.E. and Brush, C.G. (2013), "Research on women entrepreneurs: Challenges to (and from) the broader entrepreneurship literature?", *Academy of Management Annals*, 7(1): p 663-715.
- Johnson, S. and Storey, D.J. (1993), "Male and female entrepreneurs and their businesses: A comparative study", In: Allen, S. and Truman, C. (eds.), *Women in Business: Perspectives on Women Entrepreneurs*, London: Routledge, p 70-85.
- Kalafatoglu, T. and Mendoza, X. (2017), "The impact of gender and culture on networking and venture creation: An exploratory study in Turkey and MENA region", *Cross Cultural & Strategic Management*, 24(2): p 332-349.
- Kalleberg, A.L. and Leicht, K.T. (1991), "Gender and organizational performance: Determinants of small business survival and success", *Academy of Management Journal*, 34(1): p 136-161.

- Kantor, P. (2005). "Determinants of women's microenterprise success in Ahmedabad, India: Empowerment and economics", *Feminist Economics*, 11(3): p 63-83.
- Kaplan, E. (1988), "Women entrepreneurs: Constructing a framework to examine venture success and failure", In: *Frontiers of Entrepreneurship Research*, Wellesley, MA: Babson College, p 625-637.
- Kessler, M.M. (1963), "Bibliographic coupling between scientific papers", *Journal of the Association for Information Science and Technology*, 14(1): p 10-25.
- Kirkwood, J. (2009), "Motivational factors in a push-pull theory of entrepreneurship", *Gender in Management: An International Journal*, 24(5): p 346-364.
- Kirkwood, J. and Tootell, B. (2008), "Is entrepreneurship the answer to achieving work-family balance?", *Journal of Management & Organization*, 14(3): p 285-302.
- Kobeissi, N. (2010), "Gender factors and female entrepreneurship: International evidence and policy implications", *Journal of International Entrepreneurship*, 8(1): p 1-35.
- Kokol, P., Saranto, K. and Vosner, H.B. (2018), "eHealth and health informatics competences: A systemic analysis of literature production based on bibliometrics", *Kybernetes*, 47(5): p 1018-1030.
- Kreide, R. (2003), "Self-employment of women and welfare-state policies", *International Review of Sociology*, 13(1): p 205-218.
- Lasher, W.R. (1999), *Strategic Thinking for Smaller Businesses and Divisions*, Malden, MA: Blackwell.
- Lerner, M., Brush, C. and Hisrich, R. (1997), "Israeli women entrepreneurs: An examination of factors affecting performance", *Journal of Business Venturing*, 12(4): p 315-339.
- Light, I. (1984), "Immigrant and ethnic enterprise in North America", *Ethnic and Racial Studies*, 7(2): p 195-216.
- Llanos-Herrera, G.R. and Merigo, J.M. (2019), "Overview of brand personality research with bibliometric indicators", *Kybernetes*, 48(3): p 546-569.
- Mair, J. and Marti, I. (2009), "Entrepreneurship in and around institutional voids: A case study from Bangladesh", *Journal of Business Venturing*, 24(5): p 419-435.
- Manolova, T.S., Brush, C.G., Edelman, L.F. and Shaver, K.G. (2012), "One size does not fit all: Entrepreneurial expectancies and growth intentions of US women and men nascent entrepreneurs", *Entrepreneurship & Regional Development*, 24(1-2): p 7-27.
- Mari, M., Poggesi, S. and De Vita, L. (2016), "Family embeddedness and business performance: Evidences from women-owned firms", *Management Decision*, 54(2): p 476-500.
- Marlow, S. and Carter, S. (2006), "If you don't ask you don't get! Women, self-employment and finance", Paper presented at the *Warwick Business School Small Firms Finance Conference*, May, Coventry.
- Matthews, C.H. and Scott, S.G. (1995), "Uncertainty and planning in small and entrepreneurial firms: An empirical assessment", *Journal of Small Business Management*, 33(4): p 34-52.
- McGowan, P., Redeker, C.L., Cooper, S.Y. and Greenan, K. (2012), "Female entrepreneurship and the management of business and domestic roles: Motivations, expectations and realities", *Entrepreneurship & Regional Development*, 24(1-2): p 53-72.
- Mirchandani, K. (1999), "Feminist insight on gendered work: New directions in research on women and entrepreneurship", *Gender, Work & Organization*, 6(4): p 224-235.
- Morris, M.H., Miyasaki, N.N., Watters, C.E. and Coombes, S.M. (2006), "The dilemma of growth: Understanding venture size choices of women entrepreneurs", *Journal of Small Business Management*, 44(2): p 221-244.
- OECD/European Union (2017), *Policy Brief on Women's Entrepreneurship*, Luxembourg: Publication Office.
- Okamuro, H., and Ikeuchi, K. (2017), "Work-life balance and gender differences in self-employment income during the start-up stage in Japan", *International Review of Entrepreneurship*, 15(1): p 107-130.
- Orhan, M. and Scott, D. (2001), "Why women enter into entrepreneurship: An explanatory model", *Women in Management Review*, 16(5): p 232-247.
- Orser, B. and Hogarth-Scott, S. (2002), "Opting for growth: Gender dimensions of choosing enterprise development", *Canadian Journal of Administrative Sciences*, 19(3): p 284-300.

- Orser, B.J., Riding, A.L. and Manley, K. (2006), "Women entrepreneurs and financial capital", *Entrepreneurship Theory and Practice*, 30(5): p 643-665.
- Orser, B., Spence, M., Riding, A. and Carrington, C.A. (2010), "Gender and export propensity", *Entrepreneurship Theory and Practice*, 34(5): p 933-957.
- Patterson, N. and Mavin, S. (2009), "Women entrepreneurs: Jumping the corporate ship and gaining new wings", *International Small Business Journal*, 27(2): p 173-192.
- Pio, E. (2006), "Solo songs and symphonies: Ethnic minority Indian women entrepreneurs in New Zealand", *Journal of Enterprising Culture*, 14(3): p 155-176.
- Pio, E. (2007) "Ethnic minority migrant women entrepreneurs and the imperial imprimatur", *Women in Management Review*, 22(8): p 631-649.
- Pitelis, C.N. (2005), "On globalisation and governance; Some issues", *Contributions to Political Economy*, 24(1): p 1-12.
- Poggesi, S., Mari, M. and De Vita, L. (2016), "What's new in female entrepreneurship research? Answers from the literature", *International Entrepreneurship and Management Journal*, 12(3): p 735-764.
- Powell, G.N. and Eddleston, K.A. (2013), "Linking family-to-business enrichment and support to entrepreneurial success: Do female and male entrepreneurs experience different outcomes?", *Journal of Business Venturing*, 28(2): p 261-280.
- Riding, A.L. and Swift, C.S. (1990), "Women business owners and terms of credit: Some empirical findings of the Canadian experience", *Journal of Business Venturing*, 5(5): p 327-340.
- Roomi, M.A. (2013), "Entrepreneurial capital, social values and Islamic traditions: Exploring the growth of women-owned enterprises in Pakistan", *International Small Business Journal*, 31(2): p 175-191.
- Rosa, P., Carter, S. and Hamilton, D. (1996), "Gender as a determinant of small business performance: Insights from a British study", *Small Business Economics*, 8(6): p 463-478.
- Sarkodie, S.A. and Strezov, V. (2019), "A review on environmental Kuznets curve hypothesis using bibliometric and meta-analysis", *Science of the Total Environment*, 649: p 128-145.
- Schumpeter, J.A. (1934), *The Theory of Economic Development*, Cambridge, MA: Harvard University Press.
- Shane, S.A. (2003), *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*, Cheltenham, UK: Edward Elgar Publishing.
- Shapero, A. and Sokol, L. (1982), "The social dimensions of entrepreneurship", In: C. Kent, D. Sexton, and K. Vesper (eds.), *The Encyclopedia of Entrepreneurship*, Englewood Cliffs, NJ: Prentice Hall, p 72-90.
- Small, H. (1973), "Co-citation in the scientific literature: A new measure of the relationship between two documents", *Journal of the American Society for Information Science*, 24(4): p 265-269.
- Steyaert, C. and Katz, J. (2004), "Reclaiming the space of entrepreneurship in society: Geographical, discursive and social dimensions", *Entrepreneurship & Regional Development*, 16(3): p 179-196.
- Thelwall, M. (2008), "Bibliometrics to webometrics", *Journal of Information Science*, 34(4), 605-621.
- Tranfield, D., Denyer, D. and Smart, P. (2003), "Towards a methodology for developing evidenceinformed management knowledge by means of systematic review", *British Journal of Management*, 14(3): p 207-222.
- Terjesen, S. and Amorós, J.E. (2010), "Female entrepreneurship in Latin America and the Caribbean: Characteristics, drivers and relationship to economic development", *European Journal of Development Research*, 22(3): p 313-330.
- Van Uxem, F.W. and Bais, J. (1996), "Het starten van een bedrijf; Ervaringen van 2000 starters" (in Dutch), Zoetermeer: EIM Business & Policy Research.
- Venkatesh, V., Shaw, J.D., Sykes, T.A., Wamba, S.F. and Macharia, M. (2017), "Networks, technology, and entrepreneurship: A field quasi-experiment among women in rural India", *Academy of Management Journal*, 60(5): p 1709-1740.
- Verheul, I. (2018), "Commitment or control? HRM practices in female and male-led small businesses", *International Review of Entrepreneurship*, 16(3), 329-354.
- Verheul, I. and Thurik, R. (2001), "Start-up capital: Does gender matter?", *Small Business Economics*, 16(4): p 329-346.

- Verheul, I., Van Stel, A. and Thurik, R. (2006), "Explaining female and male entrepreneurship at the country level", *Entrepreneurship & Regional Development*, 18(2): p 151-183.
- Volberda, H.W., Foss, N.J. and Lyles, M.A. (2010), "Perspective — Absorbing the concept of absorptive capacity: How to realize its potential in the organization field", *Organization Science*, 21(4): p 931-951.
- Vosner, H.B., Bobek, S., Zabukovsek, S.S. and Kokol, P. (2017), "Openness and information technology: A bibliometric analysis of literature production", *Kybernetes*, 46(5): p 750-766.
- Wagner, J.A., Hollenbeck, J.R. and Russell, J. (1995), *Management of Organizational Behavior*, second edition. Englewood Cliffs, NJ: Prentice Hall.
- Waldinger, R., Aldrich, H., and Ward, R.H. (1990), *Ethnic Entrepreneurs: Immigrant Business in Industrial Societies*, Thousand Oaks, CA: Sage Publications.
- Welch, C.L., Welch, D.E. and Hewardine, L. (2008), "Gender and export behaviour: Evidence from women-owned enterprises", *Journal of Business Ethics*, 83(1): p 113-126.
- Welter, F. (2011), "Contextualizing entrepreneurship—conceptual challenges and ways forward", *Entrepreneurship Theory and Practice*, 35(1): p 165-184.
- Welter, F., Baker, T., Audretsch, D.B. and Gartner, W.B. (2016), "Everyday entrepreneurship—a call for entrepreneurship research to embrace entrepreneurial diversity", *Entrepreneurship Theory and Practice*, 41(3): p 311-321.
- Westerberg, L. (1996), "How do entrepreneurs in female sectors express their value?", In: NUTEK, *Aspects of Women's Entrepreneurship*, Stockholm: Swedish National Board for Industrial and Technical Development, p 225-242.
- Wheadon, M. and Duval-Couetil, N. (2019), "Token entrepreneurs: A review of gender, capital, and context in technology entrepreneurship", *Entrepreneurship & Regional Development*, 31(3-4): p 308-336.
- Wiklund, J., Davidsson, P. and Delmar, F. (2003), "What do they think and feel about growth? An expectancy-value approach to small business managers' attitudes toward growth", *Entrepreneurship Theory and Practice*, 27(3): p 247-270.
- Williams, D.R. (2004), "Effects of childcare activities on the duration of self-employment in Europe", *Entrepreneurship Theory and Practice*, 28(5): p 467-485.
- Yuan, S.T.D., Chou, S.Y., Yang, W.C., Wu, C.A. and Huang, C.T. (2017), "Customer engagement within multiple new media and broader business ecosystem — a holistic perspective", *Kybernetes*, 46(6): p 1000-1020.
- Zupic, I. and Cater, T. (2015), "Bibliometric methods in management and organization", *Organizational Research Methods*, 18(3): p 429-472.

