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**Gender Differences in Online
Practices**

Case studies from Egypt, Iraq, and Jordan

Master thesis

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Study Program: International Economic and Political Studies

Year of Defense: 2023

Declaration

1. I hereby declare that I have compiled this thesis using the listed literature and resources only.
2. I hereby declare that my thesis has not been used to gain any other academic title.
3. I fully agree to my work being used for study and scientific purposes.

Prague, 31st of July, 2023

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Abstract

Women living in conservative countries often face constraints in their interaction with strangers, both online and offline. Given that interactions with strangers are an important factor in getting customers by small business owners, this study aims to analyze gender differences in Facebook business practices in conservative nations. The study examines five hypotheses relating to how men and women post, talk about their businesses, and interact with others online through 1350 manually collected observations from 90 buying and selling public Facebook groups in Egypt, Iraq, and Jordan. The results show that the posting rates of business-related information in public groups are not different between men and women. However, women frequently advertise female-specific products to other women. Furthermore, while real identity positively affects post interactions, women are more likely to hide aspects of their real identity online. These insights from data analysis are supported by qualitative interviews where women also report hiding parts of their identity online and explain reasons why they do so. Together these results suggest that women adopt practices to conserve their privacy, and these might come at a cost of reduced interaction.

Abstrakt

Ženy žijící v konzervativních zemích často čelí omezením při interakci s neznámými lidmi, a to jak online, tak offline. Vzhledem k tomu, že interakce s neznámými lidmi je důležitým faktorem při získávání zákazníků vlastníky malých podniků, klade si tato studie za cíl analyzovat genderové rozdíly v obchodních postupech na Facebooku v konzervativních zemích. Studie zkoumá pět hypotéz týkajících se toho, jak muži a ženy zveřejňují příspěvky, mluví o svých podnicích a online interagují s ostatními prostřednictvím 1350 ručně shromážděných pozorování z 90 nakupujících a prodávajících veřejných facebookových skupin v Egyptě, Iráku a Jordánsku. Výsledky ukazují, že míra zveřejňování informací souvisejících s podnikáním ve veřejných skupinách se mezi muži a ženami neliší. Ženy však často jiným ženám inzerují dámské produkty. Kromě toho, zatímco skutečná identita pozitivně ovlivňuje interakci s příspěvky, ženy častěji skrývají aspekty své skutečné identity online. Textová analýza odhaluje rozdílné jazykové návyky mužů a žen při oslovování potenciálních zákazníků. Tyto poznatky z analýzy dat jsou podpořeny kvalitativními rozhovory, ve kterých ženy taktéž hlásí skrývání částí své identity online a vysvětlují důvody svého počínání. Tyto výsledky společně naznačují, že ženy si osvojují postupy k ochraně svého soukromí, za cenu snížení míry interakce.

Keywords

Entrepreneurship, Digital Marketing, Facebook Public Groups, Arab Women, Safe Spaces

Klíčová slova

Podnikání, Digitální marketing, Facebookové veřejné skupiny, Arabské ženy, Bezpečná místa

Range of thesis: 92,607 characters, with spaces and excluding abstract, bibliography, and appendices.

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I dedicate this thesis to every Arab woman who strives to prove herself, given all the challenges and constraints surrounding her. I am grateful to Layane Alhorr for her guidance, expertise, and inspiration throughout my professional and academic journeys and for her exceptional supervision of this thesis.

Master Thesis Proposal

Institute of Political Studies, IEPS programme



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Proposed Topic:

Gender differences in online practices: case studies from Egypt, Iraq, and Jordan

Keywords: Digital Economy, Facebook, Safe Spaces, Arab women, Women entrepreneurs

Topic characteristics / Research Question(s):

My thesis will focus on the following research question: **How do women use Facebook for entrepreneurship? An investigation into online practices and potential costs and benefits**

Facebook groups are one of the most valuable tools for businesses around the world. Yet, it is not clear how small business owners, particularly female business owners living in conservative Arab countries, operate on and benefit from these. In this research project, I will provide a descriptive analysis of women's practices in Facebook groups, with a focus on contrasting male vs female practices in public groups on Facebook. The project will focus on Iraq, Egypt, and Jordan as case studies gave their low female labor force participation rates and high social media usage rates.

Several existing papers have attempted to examine women's behavior online and how they use social media for entrepreneurship. For example, Beninger et al.(2016) show through qualitative analysis that women use Facebook to market their businesses and report benefiting from such exposure on the personal and professional levels. Kamel (2022), who has focused on women-only Facebook groups in Egypt and conducted 12 semi-structured interviews with group creators and members, argues that the privacy and exclusivity of Facebook groups contribute to providing a safe environment for women business owners to market on them.

Furthermore, scholars provided suggestive evidence that digital identities positively impact women, given the social, cultural, and religious constraints. For instance, Hurley (2020) argues that many women in the MENA region are often socially and culturally discouraged from posting pictures of their faces or bodies online. Furthermore, Ebrahimi and Salaverría (2015), using descriptive content

analysis of 550 public Facebook groups, examine how digital identities engage further dialogues between men and women in the online space, how female Muslim Facebook users' online and offline behavior varies and how social media is influencing them to become more "Westernized" in the context of Iran. Finally, Kamel (2022) concluded that the privacy of Facebook groups provides a safer environment for women to discuss their social and personal problems.

Yet, there is limited evidence on the correlation between virtual identities and the content that female entrepreneurs post on Facebook. My thesis will investigate how female entrepreneurs display themselves and post on social media compared to their male counterparts. I will collect and use Facebook posts data.

Working hypotheses:

1. Men tend to post business-related posts on public groups more than women
2. Real identity leads to higher interaction on Facebook group posts and, therefore, higher potential business orders via Facebook groups
3. Women are more likely than men to hide parts of their identities (pictures, names).

Methodology:

I will be using qualitative data collection methods, mainly from posts on public Facebook groups.

I will separate group posts into two: those posted by female users and those by male user.

The data collection will occur three times a week (Saturday, Tuesday, and Thursday) over one month for each country, analyzing the content of the three last posts within a group for several groups across Egypt, Iraq, and Jordan. The exact number of groups included will be determined at a later stage after initial piloting.

For each post, i will collect the following information:

- Gender of the group member posting
- Whether the name seems real or not
- A description of the profile picture (picture of user, picture of other people, object, prayer..)
- Number of comments/likes/reactions on each post
- Type of post content (seeking support, business-related, jokes, informative, etc.)
- Timing of the post
- Under the business-related posts:
 - Availability of phone number
 - Availability of exact location
 - Type of the business (female-oriented vs not)

Outline:

- Introduction
- Literature review and background on Arab women's Facebook usage
- Methodology
 - Overview of the Facebook groups to be analyzed, geographic location and characteristics
 - Data collection methods
 - Analysis methods
- Contrasting men and women's online activities and presentation
 - The proportion of men vs women posting on public groups
 - Type of posts (business, jokes, inquiries, etc.)

- Profile characteristics (picture, name)
 - Type of Information revealed on the post (phone number and exact location)
- Conclusion and results

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1. Introduction

Women around the world face different constraints than men that keep them from working and interacting with others as easily. The Arab world is one example of this specific case, where the female labor force participation rates are some of the lowest in the world. Given the constraints that women face, a lot of them end up starting businesses specially in-formal home-based businesses, and technology has been one the tools that help women access bigger opportunities. In this paper, I explore whether access to Facebook groups, which is one the way that help women market their businesses for free, allow women to talk about their businesses freely and interact with others. To do so, I collect posts from 90 Facebook groups from Egypt, Iraq, and Jordan and I compare posting behaviors of men and women, and the interactions that they get on their posts as an attempt to understand whether there is a gap in gender in how users respond to business posts.

Facebook groups have been crucial for small businesses. It has been shown, for example, that women use Facebook to market their businesses and report benefiting from such exposure on the personal and professional levels (Beninger et al., 2016). Also, It is well understood that the privacy and exclusivity of Facebook private groups contribute to providing a safe environment for women business owners to market on them (Kamel, 2022). Furthermore, scholars provided suggestive evidence that digital identities positively impact women, given the social, cultural, and religious constraints. For instance, Hurley (2020) argues that many women in the MENA region are often socially and culturally discouraged from posting pictures of their faces or bodies online.

However, there is limited evidence on the correlation between virtual identities and the content female entrepreneurs post on public Facebook groups. My thesis will investigate how female entrepreneurs display themselves and post on social media compared to their male counterparts.

In this research project, I will provide a descriptive analysis of women's practices in groups, focusing on contrasting male vs female practices on Facebook in Egypt, Iraq, and Jordan. This paper answers the following research question: **How do Facebook business practices differ across men vs women?**

I compare women's and men's activities in 90 public Facebook groups, one of the most widely used ways for users of this social media platform to market their businesses for free. As part of this research project, I present a descriptive analysis of 1350 observations of women's and men's practices in these groups. I study this phenomenon in the context of Iraq, Egypt, and Jordan, given their significantly low female labor force participation rate and their high rates of Facebook usage. Using these countries as case studies, I analyze posts from users on public Facebook groups and classify post-authors by gender based on their profiles in conservative Arab societies. Later, I document how post content differs depending on whether the writer poses as a man or a woman. Lastly, I correlate the visibility of users' identities with the interactions that their posts get from audiences on Facebook groups.

Additionally, as part of this thesis, I collected 45 observations from 3 public groups and classify members and content based on gender in the United States to understand how these results compare to a non-conservative context. These observations' analysis follows the same pattern as the 1350 observations.

In the following research, I find that women posted 51% of business posts and 46% of non-business posts. These findings suggest that women actively generate Facebook content for business-related topics.

Secondly, to understand the pattern of how business owners target potential customers, which is also influenced by the audience that they want to interact with online. I categorize the business types based on the product/service that they are providing and its target customers, into female-oriented (women clothing, accessories, or cosmetic), male-oriented (cars, tobacco, or constructions), and neutral gender (home supplies, kitchen equipment, or electronics) to explore business owners' patterns while targeting potential customers. As a result, I discover a strong positive relationship between posing as a female and posting about a female-oriented business. Furthermore, there is also a strong positive relationship posing as a male and posting about male-oriented businesses. However, when it comes to neutral-gender businesses, males are more likely to post about these

than females. The observed gender differences suggest that gender plays a huge role in determining customer targeting strategies.

Next, I explore the differences in the way both genders reveal their real identities online by comparing the usage of potentially identifying pictures, real names, and other privacy-related factors (phone number, location, and allowing message & friend requests). Combining all these variables in one privacy index, I find that women are much more concerned about their privacy than men.

I also look at whether real identity on Facebook leads to higher interactions on posts. Based on the analysis, I find a positive relationship between the log of the number of likes on posts and identifying pictures on Facebook. Additionally, there is a strong negative relationship between the presence of male engagement and the posting of females. The results of this analysis show that users with identifying pictures, tend to get more interactions on their posts. Additionally, since women mostly target other women in their businesses, therefore, they get less interactions from men.

In order to understand the way post creators craft their business posts while targeting potential customers, I test the gender differences in terms of post-text characteristics. As a result, the paper shows that females in the total sample tend to use more emotional, social, and linguistic words and emojis than males in their texts. On the other hand, males use cognitive and perceptual words more than females.

While it is clear that women adopt more identity-concealing practices and cater more to other women, it is not clear why. To better understand this, I conduct 7 semi-structured interviews conducted with Facebook group admins and members. As a results, there are no appreciable variations between men and women in the rates at which they posted business-related content in open groups, according to the interviews offered strong support for the data analysis findings. Due to variables like professional experience, ease of product delivery, harmony with women's interests, and personal or cultural preferences, participants indicated that women target other women in their

enterprises. Moreover, some women decide to conceal their real identities online out of fear of judgment, adherence to cultural standards, worry about being singled out, religious reasons, and the desire for privacy and protection. The potential benefits of using real identification and setting up separate business pages on Facebook are highlighted by the preference for not using real names and identifying fake accounts participating in unethical activities.

The organization of the paper will be as follows. First, section 1 will give a general overview of the study background, explain why I have chosen the countries for this thesis, and offer the results of the representative Arab Barometer survey on social media and Facebook usage. The paper's second section will be a literature review of available academic works on the topic. The methodology section, which describes the research methods, data-gathering procedures, data descriptions, and ethical considerations, will follow. The findings section will present the results of each hypothesis' data analysis. The paper will then come to a close with a discussion and conclusion of the study findings, the study's limitations, and recommendations for future research.

1.1 Research Context

The main reason for choosing Egypt, Iraq, and Jordan as the focal countries for my analysis is that, after war-ridden Yemen, the female labor force participation rates in these countries are the lowest in the world ([World Bank](#)). Despite improvements in women's rights and rising educational levels, there are still significant gender gaps in the workforce. In this paper, I investigate how these gender differences may appear in the digital world and identify potential online obstacles or opportunities for women's economic activity. Additionally, another reason for selecting these countries is because they have high rates of Facebook usage; for example, 43.32% of Egypt's population are Facebook users, as for Iraq and Jordan, the percentage of Facebook users as a proportion of their population is 56.08% and 56.33% respectively.

1.2 Arab Barometer Wave VII Survey

While the primary data collected for this thesis is not representative of the country-level dynamics of gender differences in online practices, this section provides general insights on social media usage in Egypt, Iraq, and Jordan, compared to other Arab countries. To do so, I analyze data from the [Arab Barometer Wave VII](#) representative Survey of October 2021 - July 2022. The Arab barometer survey is a nationally representative survey that examines a variety of subjects, including COVID-19, the economy, public trust in government, the position of women, gender norms, identity and discrimination, the environment, and international relations.

Descriptive Statistics of the Arab Barometer on Social media usage.

Data from the Arab Barometer reveals that Facebook is the most commonly used social media platform in Arab countries. As shown in Figure 1, 77% of survey participants mentioned that they actively use Facebook when asked about social media platforms they use, followed by 66% of the participants who mentioned Whatsapp too. Disaggregating this information by gender, I find that over 42% of Arab men reported that they actively use Facebook, compared to 35% of women. This suggests that males use Facebook more frequently than females among the population surveyed.

This leads to the conclusion that Facebook has very high popularity and usage trends in the Arab world.

In the three countries that I examine in this paper, 94%, 74%, and 92% of male participants reported using Facebook in Egypt, Iraq, and Jordan, respectively. And 87%, 46%, and 83% of female participants reported using Facebook

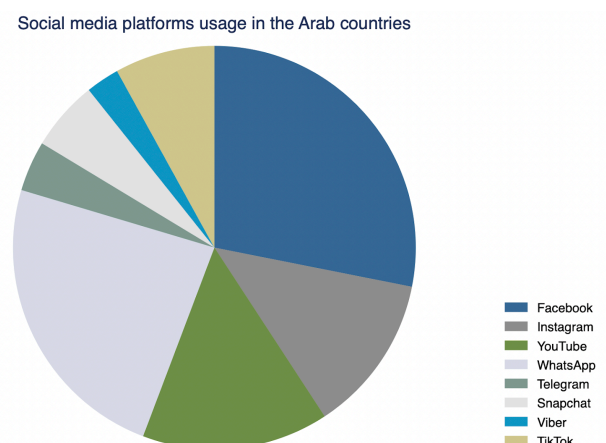


Figure 1: Social media platforms usage in the Arab countries

in Egypt, Iraq, and Jordan, respectively, which means that men have a higher Facebook usage rate than women in these countries.

Additionally, when comparing the daily hours spent on social media, it was shown that 17% of the sample comprises men who use social media for up to 2 hours, while a similar 17% comprises women. This shows that the percentage of users spending up to two hours each day on social media is the same for both genders, as reflected in Figure 2, which indicates a high degree of involvement and long interaction for both genders in the Arab world.

In the context of this thesis, 53%, 31%, and 32% of men who use social media reported spending up to 2 hours on social media daily in Egypt, Iraq, and Jordan, respectively. Whereas 53%, 45%, and 48% of women who use social media reported spending the same duration on social media platforms daily in Egypt, Iraq, and Jordan, respectively.

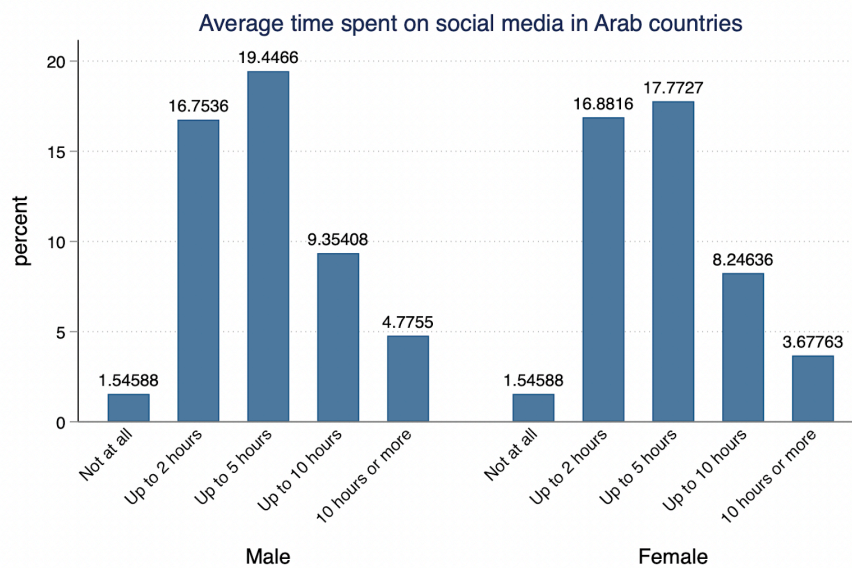


Figure 2: Average time spent on social media in Arab countries

2. Literature Review

Social media entrepreneurship; Benefits and challenges

In recent years, and especially after the COVID-19 pandemic that has hindered the performance of small and medium-sized enterprises (SMEs) (Srikalimah et al., 2020), businesses started to look for new ways to reach out to more customers and adapt to the current conditions (Ratten, 2020) Plenty of literature focused on "social media entrepreneurship". They agreed that social media allows greater market access, serves as a communication tool between the MSME's owners and clients, and improves the performance & innovation of businesses. For instance, Olanrewaju et al. (2020), after analyzing 160 pieces of literature on social media and entrepreneurship, provided suggestive evidence that numerous academics have concluded that social media has facilitated business creation, particularly among women in underdeveloped nations where it aids in social and economic development. Additionally, social media can break geographic barriers (Jagongo & Kinyua, 2013) and provide higher and faster customer communication (Beninger et al., 2016; Jagongo & Kinyua, 2013; Sahoo, 2014;) while facilitating connections in a low-cost and easy-to-use way (Ali, 2011).

Focusing on the more detailed social media practices of entrepreneurs on social media, Jagongo & Kinyua (2013), who have delved into practices carried by Nairobi SME owners through social media, concluded that 81% of the participants used social media for sales, market research, and supplies. Additionally, they concluded a strong relationship between market access and the SME's monthly sales, along with a strong relationship between online customer relationship management (CRM) practices and higher sales. Additionally, engagement on posts was seen to play a crucial role in facilitating the necessary condition for successful online business, as they have the potential to be transformed into valuable vending opportunities (Steel, 2017).

Female entrepreneurship was perceived as a massive benefit for economic growth in developing countries, as it contributes to women's empowerment, autonomy, and self-reliance (Steel, 2017). For instance, Ramadani et al. (2013) highlight the importance of female entrepreneurship as a crucial driver of economic growth in developing countries. They stress that women entrepreneurs have a huge role in offering job opportunities and income that contributes to the country's overall economic development. Moreover, Ajjan et al. (2014) proposed that promoting women's utilization of technology, specifically social media, can be a potential pathway to enhance entrepreneurial participation and outcomes, leading to positive economic development.

Despite the advantages of online and offline entrepreneurship, entrepreneurs still face some challenges while operating their businesses or implementing new technological marketing practices in their existing businesses; In particular, Egyptian women were seen to be concentrating in the "one-person-size firm" for decades due to all the challenges that they face in comparison to men (Dana, 2012; El-Mahdi, 2006) because it is not socially desirable for them to be involved in a business (Dana, 2000) and they feel discriminated against by business rules and regulations set by formal and informal financial institutions (Adly and Kathib, 2014).

Social media usage by women entrepreneurs

Several authors agreed that social media benefits women entrepreneurs in many aspects; for instance, social media adoption has helped women create new employment and self-employment opportunities (Huyer & Mitter, 2003). In addition, Wheeler (2007) concluded that providing access to the Internet to Egyptian women contributes to female empowerment by improving access to information and professional development, social network growth, and changes in political and social awareness. Social media enables women entrepreneurs to expand their networks by bridging social capital, enhancing their self-efficacy (Ellison et al., 2007) and social capital in developing countries (Ajjan et al., 2014; Olanrewaju et al., 2020). Finally, Ajjan et al. (2014) provided

suggestive evidence that social media should give women more power over their lives and the decisions they make and that it leads to tremendous entrepreneurial success via a feeling of empowerment, which is a process and an outcome. Several existing papers have attempted to examine how women's behaviour online and how they use and benefit from social media entrepreneurship; for instance, Beninger et al.(2016) show through qualitative analysis that women use Facebook to market their businesses and report benefiting from such exposure on the personal and professional levels. According to the same authors, using social media to run a business provides several professional benefits, including improving awareness, growing sales, and building a reputation. On the personal front, entrepreneurs can experience increased flexibility, financial freedom, enhanced confidence, and a sense of independence and control over their lives. Finally, regarding social media entrepreneurship's challenges. For example, Sahoo (2014), who focused on social media usage by SME owners in the context of India, mentioned that despite the advantages, MSMEs encounter difficulties implementing new technologies, primarily because of limited resources, inadequate training, and lack of knowledge of the available tools. Additionally, based on Steel's (2017) interviewees' responses, online entrepreneurship was perceived as time-consuming, which leads entrepreneurs to respond to messages received during the day late at night.

Private groups as Safe Spaces

With Facebook being a dominant social media platform Olanrewaju et al., (2020), there are countless women-only Facebook groups (Kamel, 2022); previous literature concluded that women consider these private groups as safe spaces where they can share their feelings and post their businesses freely. For instance, Kamel (2022), who interviewed women-only Facebook group creators and members, found that many cultural and societal reasons are attributed to women engaging in exclusive groups. Additionally, the author provided suggestive evidence that the privacy and exclusivity of Facebook groups contribute to providing a safe environment for women

business owners to market on them. According to a group of women who participated in Clark-Parsons' (2018) study, creating a private Facebook group for women was vital for them to share experiences and concerns related to being a woman. Additionally, Pruchniewska's (2019) research demonstrated that private Facebook groups for professional women are essential to support women's interests given the fact that women frequently start "female-type" enterprises in the Middle East (De Vita et al., 2013) as well as enabling them to self-represent, express themselves, and seek help.

Due to the frequent abuse encountered by men in such online places, which mirrors worries about safety in offline public mixed spaces, the exclusion of men from private Facebook groups is designed to establish a safe space for women entrepreneurs. For example, some business owners switched from public Facebook pages to private Facebook or WhatsApp groups, mainly because they want to avoid engaging with men or being controlled by men (Steel, 2017).

Online identity and Self-disclosure

Scholars provided suggestive evidence that digital identities differ among genders, given the social, cultural, and religious constraints. For instance, Hurley (2020) argues that many women in the MENA region are often socially and culturally discouraged from posting pictures of their faces or bodies online. Furthermore, Ebrahimi and Salaverría (2015), using descriptive content analysis of 550 public Facebook groups, examine how digital identities engage further dialogues between men and women in the online space, how female Muslim Facebook users' online and offline behaviour varies and how social media is influencing them to become more "Westernized" in the context of Iran. These attitudes align with the prevalence of women facing sexual harassment in North African societies, which is mirrored and perpetuated in online spaces as well (Skalli, 2014)

A complex interplay exists between culture, identity, and online behaviour, shedding light on the factors that shape individuals' virtual selves or identities. For instance, Zhao et al. (2008) discovered that Facebook users tend to create identities that reflect their "hoped-for" selves rather than their

"true" selves. Conversely, Dobson (2015) concluded that online identities are highly tied to offline bodies and social lives.

Zhao and Jiang (2011) found that members from different cultures use diverse visual means to present themselves through their profile images; Roy (2021) discovered that people are more likely to post neutral or no photos of themselves in conservative countries, where Islamic religiousness indeed plays a critical role in shaping the entrepreneurial practices too (Althalathini et al., 2021)

Various authors attempted to explore online identity formation in the Saudi context, including using nicknames and real names and the influence of cultural norms and traditions on identity expression in the virtual world. For example, Tingstad (2003) concluded that nicknames used on the internet serve as a visual expression of the self. Alenezi (2018) specifically examined the behaviour of young Saudi males and females in the virtual world. The study revealed that young Saudi males tended to use their real names, while females opted for nicknames. This distinction was attributed to societal norms and traditions influencing online identity choices for each gender. On the other hand, Huffaker (2004) investigated gender differences in personality in online contexts and found that, apart from location information, there were no significant gender differences. Moreover, gender differences did not impact the choice of real or screen names.

This paper contributes to the available literature on social media entrepreneurship, especially in conservative countries. Although earlier research has emphasized the value of social media for female entrepreneurship, their usage patterns, and the importance of women-only groups as safe spaces, this study adopts a unique approach by focusing on the variations in entrepreneurial practices between genders in conservative societies.

3. Theoretical Background and Hypotheses

In this section, I provide the theoretical underpinnings and background under each hypothesis of this paper which is grounded in existing theories from the previously summarised literature on social media entrepreneurship and online identity formation. Building upon the literature review, I test the following hypothesis:

Hypothesis#1: Men tend to post business-related posts on public groups more than women

This hypothesis is motivated by the literature highlighting gender differences in business engagement. Several studies have explored the gender differences in entrepreneurship, for instance the rate of women entrepreneurship is significantly lower than men's (Malach-Pines & Schwartz, 2008) and women are less likely to start a businesses due to the fear of failure (Sánchez Cañizares & Fuentes García, 2010). This evidence means that men and women may have different approaches, behaviours, and strategies when it comes to promoting and marketing their businesses. Also, societal expectations and cultural factors may affect how much each gender engages in business, resulting in differences in their practices in online public groups.

Hypothesis#2: When posting businesses, women are more likely to post content tailored to other women

Inspired by previous literature, mainly De Vita et al., (2013) who concluded the females frequently start "female-type", as well as Ashraf et al., (2019) who provided suggestive evidence that women segregate in industries with more women. This hypothesis examines how gender-specific marketing techniques can successfully reach target audiences. Women entrepreneurs may modify their content to approach other women by considering their needs, hobbies, and interests.

Hypothesis#3: Women are more likely to hide parts of their identities in online spaces

Prior literature revealed that people may reveal or conceal different parts of their identities online. Due to cultural norms, conservative societies, or to further protect themselves from online harassment, conservative women conceal parts of their identities.

Hypothesis#4: Real identity leads to higher interaction on Facebook group posts and, therefore, higher potential business orders via Facebook.

The number of likes establishes the ideal circumstances for a prosperous web organization. They can only be changed into business opportunities (Steel, 2017). This hypothesis assumes that real identities on social media lead to higher credibility and trustworthiness, and they also lead to higher interactions on posts.

Hypothesis#5: Men and women approach potential customers differently while writing post-content.

This hypothesis is based on research on the patterns and forms of communication specific to gender. When addressing potential clients in their post-content, men and women may utilize different linguistic techniques, emotive content, and persuasive techniques. Studies examining the impact of language and communication methods on consumer reaction and engagement rates serve as a foundation for investigating any gender-based variations in this context.

4. Methodology

This descriptive study uses qualitative data collection methods to examine differences in online behavior between people who pose as males and females, focusing on analyzing users' virtual identities, entrepreneurial practices, and interactions on their posts.

4.1 Observations collected from Public Facebook groups

First, I collected the text and content of posts from public Facebook groups and analyzed how the content and tone of these posts differ by post authors gender. I manually collected data from Public Facebook Groups, encompassing 1,350 posts extracted from 90 public Facebook Groups in Egypt, Iraq, and Jordan over one month (January 2023). Furthermore, I collected information regarding the poster and interactions on the posts three months after the first data collection phase. Moreover, I collected 45 observations from public groups in the United States of America to compare them with the initial dataset of 1350 observations in terms of virtual identities and business posts. The analysis of this dataset follows the same pattern as the main dataset.

4.2 Semi-structured interviews

I conducted qualitative interviews with group administrators and members to verify the findings from my collected posts. Along with the manual data collection, I conducted four online interviews with group members to provide evidence supporting the main results of the analysis. The interviews were driven by the hypotheses linking the gender orientation of the business, identity disclosure, and interaction on public posts of Facebook groups. I included questions about Facebook usage, business-related activities, perceived benefits and challenges of public Facebook groups, privacy and identity, received interaction on posts, and demographic questions (age and marital status).

Also, three online interviews were conducted on Facebook Messenger with Facebook group admins to have a general sense of these groups' perceived benefits and limitations of these groups and whether there are any observed differences among members of different genders.

I followed the convenience sampling method in this part of the research; convenience is a technique that researchers use to select respondents who are accessible and willing to participate in the interview. I sent a message that introduced the purpose of the study on Messenger to Facebook group members and admins, inviting interested users to join an online voice call on Facebook Messenger to participate in the interview.

4.3 LIWC-22 Text-Analysis tool

I used a text-analysis approach to explore the gender differences in post-texts by using Linguistic Inquiry and Word Count (LIWC-22), one of the programs social scientists most frequently employed for these kinds of research. The tool answered the fifth hypothesis of this thesis (*Men and women approach potential customers differently while writing post-content*) by recognizing and quantifying different language characteristics in the post-content.

LIWC-22 includes a semantic dictionary with 64 categories for assessing the text's emotional, cognitive, and structural elements word by word. I only used six categories for the text analysis of this thesis: emotional tone, cognitive processes, social interactions, perception, emoji usage, and linguistic style.

I extracted the meanings of the used categories directly from the LIWC-22 Manual of Boyd et al. (2022). The LIWC-22 software does not presently contain an Arabic dictionary that I could load to assess the textual content of the postings published by group members.

I used Google Translate to translate the Arabic sentences to get around this restriction before running the LIWC-22 analysis. While Google Translate and other machine translation systems can offer a broad comprehension of the text, it is essential to recognize that there might be some errors in the translation process. Yet, previous studies have shown how helpful machine translation is as a replacement for LIWC dictionaries. The results imply that machine-translated texts can yield trustworthy results when linguistic characteristics are examined in political science using available bag-of-words analysis algorithms. Researchers can securely use machine translation, notably Google Translate, in their research since LIWC indexes hold up across both machine and human-translated texts. This feature gives a great chance to broaden the analysis and investigate linguistic aspects in several languages, particularly those for which LIWC dictionaries might not be easily accessible (Windsor et al., 2019).

4.4 Selection of Facebook Groups and Data Collection Methods.

I sampled groups by searching for Facebook public groups based in Egypt, Iraq, and Jordan. I used the following selection criteria to include groups in my sample:

- At least 1000 members in the group
- At least 30 posts were posted in the last 30 days
- The group is mixed gender: no restrictions on members' gender in the group description
- The group is a general interest group: no restrictions on the type of product/service marketed.

The group names include “Buy and Sell in (name of the city)”, “The market of (name of the city)”, “Advertisements in (name of the city)”, or general groups for a specific province or the country as a whole. I selected thirty groups from Egypt, Iraq and Jordan to satisfy the above criteria. Since there is no consistent way to sample or search groups on Facebook, this can also be considered a convenience sample. I equally selected ninety groups across Egypt, Iraq, and Jordan (30 groups per country) diverse in geographic locations. Based on the previously pinned geographic location of the Facebook groups, figure 3 shows the geographic distribution of the selected Facebook groups among Egypt, Iraq, and Jordan.

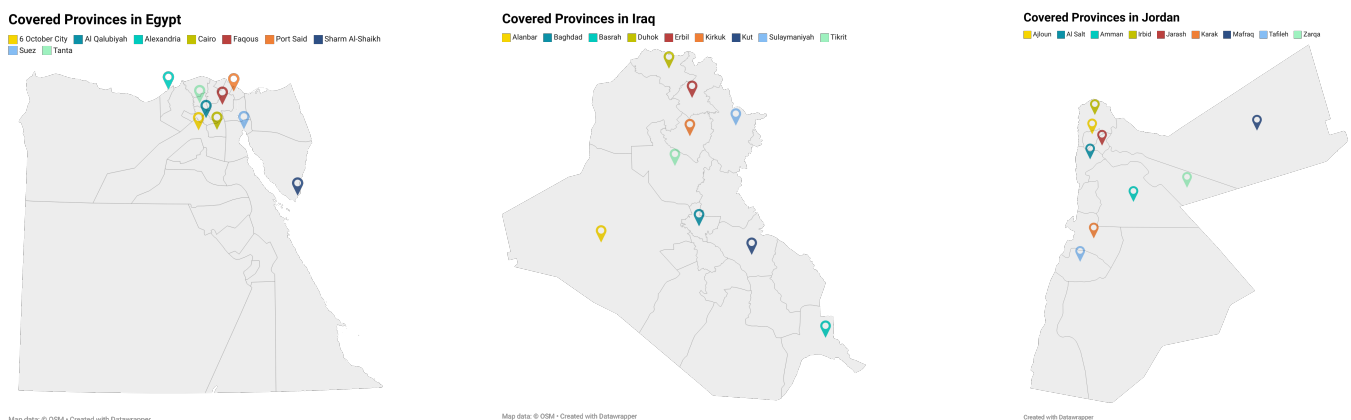


Figure 3: The location of the chosen groups in Egypt, Iraq, and Jordan

It is also important to note that I did not collect data from women-only, closed, private groups where women can freely communicate their ideas and experiences in these organizations because they value privacy highly (Kamel, 2022). However, I interviewed an admin of a women-only private group to obtain insight into the dynamics and traits of private groups. The purpose of this interview was to compare public and private groups generally in terms of the differences observed during this thesis's investigation.

Characteristics of the chosen groups

On average, the age of the selected groups was 4.41 years, with a maximum of twelve years and a minimum of one year, and the number of members ranged between 1100 and 253300 members. Finally, on average, the chosen groups had 1561 posts during the last 30 days of the data collection date.

Variable	Obs	Mean	Standard Deviation	Min	Max
Years since created	90	4.411111	2.898641	1	12
Members in groups	90	15729.67	36134.25	1100	253300
Activity last 30 days	90	1561.767	2529.313	32	10,000

Table 1: Characteristics of the chosen Facebook groups

Data collected from posts:

I collected 1350 observations from 90 public groups In Egypt, Iraq, and Jordan, comprising the 15 most recent posts from each group, while excluding posts from the same post-author or duplicate profiles. This included considering post content (business vs non-business), post text and the author's profile during the data collection.

I categorized posts containing business content into two groups based on gender: gender-focused and non-gender-focused. Contrarily, non-business content featured various posts, including news,

jokes, instructional posts, enquiries, and social posts. These posts served different functions besides promoting goods and services within the online community.

Table 2 illustrates the proportion of business vs non-business posts in the sample; 104 observations (7.70%) of the sample posted non-business content, and 1246 observations (92.30%) posted business content. Non-business posts have been excluded from the subsequent analysis of this research paper as its primary emphasis is on investigating gender disparities in entrepreneurial practices.

Post content	Frequency	Percent	Cumulative
Non-business content	104	7.70	7.70
Business content	1246	92.30	100
Total	1350	100	

Table 2: Business vs non-business posts in the sample

To test the hypothesis that aims to examine the differences in interaction on post based on identity disclosure (H#4), I collected the number of likes on the posts three months after the initial data collection phase (March 2023).

Data collected from profiles

To determine post authors' characteristics, I visited the profiles of users posting. I observed several variables to assess the overall privacy of profiles and the degree to which post-authors disclose aspects of their identities to the public. The main variables observed are gender, profile picture identification, username, allowing message requests, and friend requests.

Gender Detection

Facebook users are required to identify their gender during account creation (Carstensen, 2014.), and given that the usernames and profile photos might not be clear enough to determine the gender of the post-author, the method that I adopted to determine the gender was by looking at the pronouns set by the users either on public profiles or on locked profiles. For the public profiles, I filtered the date they changed their profile picture and determined the gender based on it. Figure 4 shows an example of a female whose username is “صمت الحياه” which means “The silence of life” and has a fake picture of a crying girl with a quote. As for the case of locked profiles¹ the pronoun becomes visible once I click on the profile.

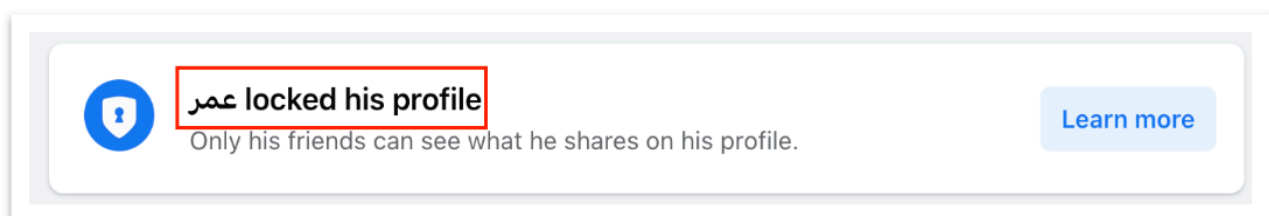


Figure 4: Gender detection from Facebook profiles

¹ Locked profile; As defined by Facebook, a locked profile restricts visibility to non-friends, showing limited content, including photos, posts, stories, and About info, with profile and tag review enabled (Facebook, nd).

The below table illustrates the proportion of account types of which posts were posted; Business pages posted 11.04% of the observations, females posted 45.04%, and males posted 43.93%. Business page posts are excluded from this paper's further analysis as it compares gender entrepreneurial practices, and the gender of the page owner cannot be known.

Account type	Frequency	Percent	Cumulative
Business page	149	11.04	11.04
Female	608	45.04	56.07
Male	593	43.93	100
Total	1350	100	

Table 3: Account types of which posts are posted

Table 4 shows the characteristics of Facebook profiles, grouped by gender, identification of profile pictures, and usernames.

	Percentage %	Total (N)
Gender		1201
Male	49.38	593
Female	50.62	608
User Photo		1201
Potentially-Identifying pictures	<u>26.39</u>	<u>317</u>
Potentially real-personal picture	20.81	250
Group photo	0.33	4
Photo of (potentially) son or daughter	3.16	38
Photo with partner/family member	1.33	16
Family members	1	9
Non-identifying pictures	<u>73.61</u>	<u>884</u>
Business related	25.48	306
User-Hiding face	1.5	18
Objects	14.15	170
Quotes	5.33	64
Religious	7.58	91
(Potentially) Fake/Celebrity	17.49	210
Nature	0.58	7
Political	0.42	5
No photo	1.08	13
User Name		1201
(Potentially) Name of user	51.96	624
Nickname	13.99	168
Kunyah - Father/mother of	7.91	95
Business name	15.48	186
First name of user	8.83	106
Family name of user	1	12
Male's name - For female users	0.83	10

Table 4: Characteristics of Facebook profiles

4.5 Ethical Considerations

The collected data was limited to publicly available information on Facebook groups and profiles, adhering to the privacy settings set by the Facebook users themselves and considering them as factors of the study outcomes. In other words, no private groups were joined, and no friend requests were sent to access information about Facebook users.

It was important to respect the interviewees' privacy throughout the interviewing process. Each interviewee gave their explicit consent before any conversations were recorded. During the study, I made sure that participants' identities remained anonymous. To protect their privacy and maintain confidentiality, the interviewees' names and pictures won't be revealed or disclosed in any way. This dedication to ensuring participant anonymity is essential for respecting ethical standards and the fundamentals of competent research conduct.

Additionally, it is important to stress that this research is limited to the traditional binary view of gender within the context of Arab countries; this research does not cover alternative non-binary genders. This choice is supported by the fact that non-binary genders are not commonly represented in the cultural framework of Arab countries.

4.6 Representativeness of the Study

It is crucial to mention that this paper is descriptive and only representative of the content available on the selected Facebook groups, and it is not representative of the users' behavior on the country level. The observations are only case studies that I have used to describe the content available on public Facebook groups.

5. Findings

The goal of this paper is to examine the differences in Facebook business practices between men and women in Egypt, Iraq, and Jordan. It investigates the differences between men and women regarding entrepreneurial activities, identity disclosure, and engagement in public Facebook spaces. This section uses the provided data to test the proposed hypotheses by running linear regression models to examine the correlation between gender as an independent variable and other response variables. Also, this section presents the results of posts' text analysis results using LIWC-22, a short comparison between groups in the US and Arab groups, as well as the outlines and findings of the semi-structured interviews.

Hypothesis #1: Men tend to post business-related posts on public groups more than women.

5.1 Gender differences in posting frequency

The first hypothesis suggests that there is a gender gap in posting behavior within the public space on Facebook, with males posting more business content on groups than women. To test this hypothesis, I used the content classification of business vs non-business content and the inferred gender of the Facebook user (males and females).

As a result, 51% of the business posts were posted by users posing as females. On the other hand, 54% of the non-business observations were posted by male users and 46% by female users in the total sample. As illustrated in Figure 5, while there was no difference in genders who post business content in Iraq and Egypt, females post significantly more business related-content than males in Jordan.

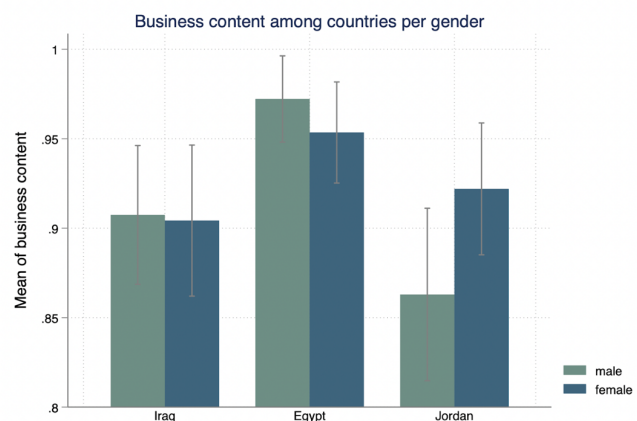


Figure 5: Gender differences in average business content posting

The result of the regression analysis indicated a positive relationship between these variables in Jordan with a coefficient of .0590071. However, the coefficient was statistically significant at the 0.10 alpha level ($p=0.057$).

Hypothesis #2: When posting businesses, women are more likely to post content tailored to other women.

This hypothesis predicts that women are more likely to create business content that is more targeted towards other women—assuming that women understand their target market's demands, preferences, and interests. These female business owners may be trying to connect with and gain the trust from other women by creating content that appeals to women.

5.2 Gender and Business Sectors

I classified business posts into 14 categories: agriculture, beauty, clothing, construction, education, entertainment, food, furniture, health, real estate, retail, services, job offers, and transportation.

Figure 6 shows that 22.14% (N=236) of the business posts were advertising for general retail businesses (such as appliances, supplies, electronics, containers, etc.), males posted 59.32% (N=140) of these retail posts, and females posted 40.68% (N=96).

Additionally, clothing business content took a proportion of 18.11 (N=193) of the total sample, mainly posted by females (76%).

Males mostly posted services such as advertisement, financial, telecommunication, and travel services.

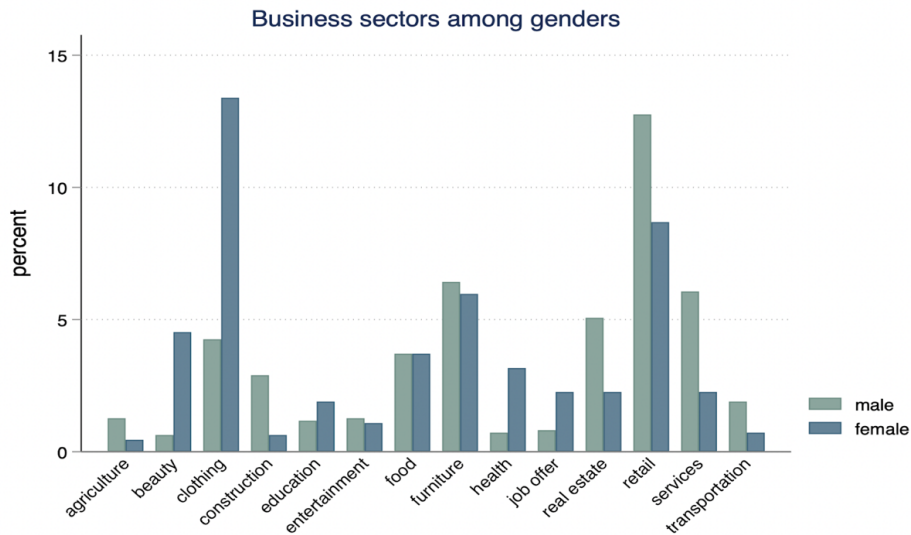


Figure 6: Distribution of business sectors by gender

Gender-tailored businesses

I divided posts with business content that had a sales focus into gender-focused and non-gender-focused categories. Male-oriented posts included products/services like electronics, car accessories, or tobacco. At the same time, female-oriented posts targeted women's products/services like women's clothing and accessories or skin care. I categorized the business posts that did not specifically target one gender as neutral postings, while I categorized home-based food businesses and restaurants under one specific group.

Figure 7 shows that females in Egypt, Iraq and Jordan are more likely to post businesses that are tailored towards other women, such as women's clothing, accessories, cosmetics and skin care products, women-weight loss products, home and kitchen decorations and other female-oriented products/services.

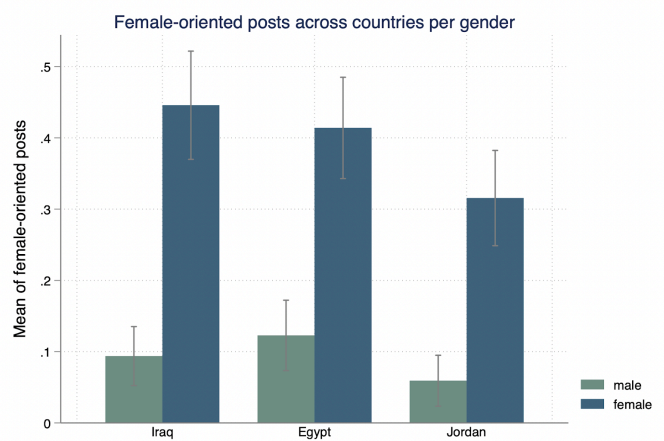


Figure 7: Distribution of female-oriented posts across countries per gender

The regression analysis results of female-oriented businesses on female users had a coefficient of .2973317 and a p-value of 0.000, representing a strong positive relationship.

This case also applies to male-oriented products, where males were more likely to post male catering products/services (figure 8). Yet, it doesn't apply to neutral-gender businesses, where males are significantly more likely to post-neutral-gender businesses in Egypt and Iraq (figure 9).

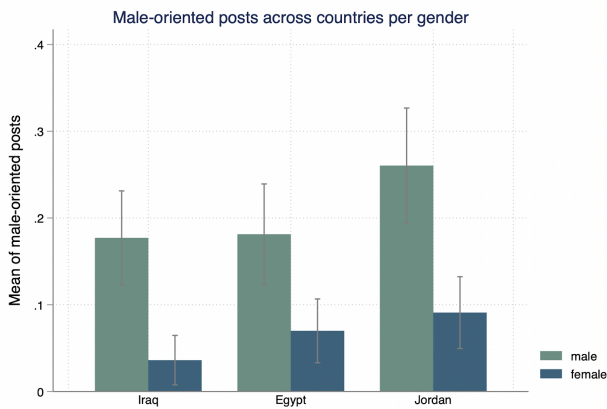


Figure 8: Distribution of male-oriented posts across countries per gender

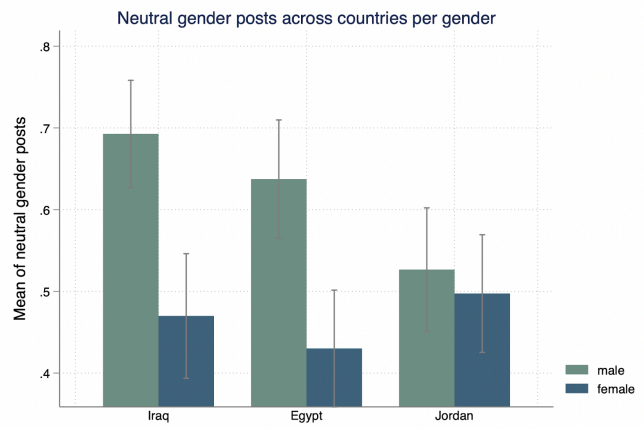


Figure 9: Distribution of neutral-gender posts across countries per gender

Hypothesis #3: Women are more likely to hide parts of their identities in the online space.

The hypothesis assumes that female entrepreneurs are more likely to hide some facets of their identities when conducting business online. The hypothesis suggests that women entrepreneurs may hide or downplay specific aspects of their personal or professional lives due to the anonymity and potential for discrimination and harassment in the digital world.

In this section, I analyze the identities of post-authors and explore the differences in privacy concerns & reveal parts of the identities of business-post authors.

5.3 Virtual identities characteristics of business owners

Privacy concerns and identity of users

- **Profile Pictures:** The findings point to a gender gap in online users' adoption of identifying profile images. The data shows that entrepreneurs identifying as females on Facebook are less likely to use identifiable profile images than their male counterparts. A statistically significant coefficient of $-.2732233$ and a p-value of 0.000 confirm this outcome for the whole sample, which points to a considerable gender-based variation in the choice of profile images. Figure 10 graphically illustrates the gender differences in the use of identifying images across the three countries under consideration. These findings highlight a fascinating factor of online behavior by possibly showing gender-based differences in how people display themselves online.

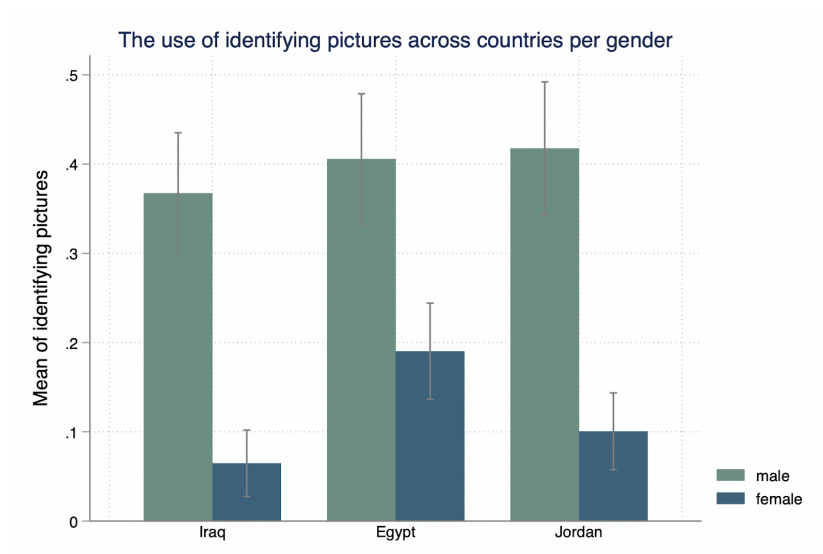


Figure 10: Distribution of usage of identifying pictures across countries per gender

Table 5 shows a comprehensive breakdown of the types of identifying pictures used by Facebook users of the sample based on their gender. The table indicates that there are 214 male users (76%) and 69 female users (24%) with identifying pictures.

Among the users posing as males and using identifying pictures, 87% (N=186) use personal pictures, and 8% (N=17) use their kids' pictures. On the contrary, among the users that are posing as

females on Facebook, 42% (N=29) use their personal pictures with Hijab as a profile picture, 10% use a picture without hijab, and 28% (N=19) use their kid's pictures as profile pictures.

Table 6 provides an overview of the types of non-identifying pictures used by male and female users in the sample, showing the diversification of choices in selecting them. Overall, there are 327 male users (40%) and 495 female users (60%) who use non-identifying pictures. The highest count category among the non-identifying pictures group is the business-related type of pictures which was determined based on the business type posted on the public group. (i.e this category was chosen if the profile picture is a photo of a product related to the business post), which means that people using business-related profile pictures might prioritize the formalization of their businesses rather than revealing parts of their identities. 47% of male users with non-identifying pictures have business-related pictures, followed by 18% that have objects photos, 11% with religious quotes or verses, and 8% with potentially fake pictures. On the other hand, 31% of female users with non-identifying pictures had potentially fake pictures, followed by 30% business-related pictures and 19% object pictures.

Profile Picture	Gender		
	Male	Female	Total
female relative	0	1	1
	0.00	1.45	0.35
group photo	3	1	4
	1.40	1.45	1.41
kid	17	19	36
	7.94	27.54	12.72
male relative	1	4	5
	0.47	5.80	1.77
personal	186	0	186
	86.92	0.00	65.72
personal, with hijab	0	29	29
	0.00	42.03	10.25
personal, without hijab	0	7	7
	0.00	10.14	2.47
user with a female	4	2	6
	1.87	2.90	2.12
user with a male	3	6	9
	1.40	8.70	3.18
Total	214	69	283
	100.00	100.00	100.00

Table 5: Types of identifying pictures of entrepreneurs per gender

Profile Picture	Gender		
	Male	Female	Total
Likely fake picture	25	154	179
	7.65	31.11	21.78
business related	154	147	301
	47.09	29.70	36.62
celebrity	8	6	14
	2.45	1.21	1.70
hiding face	4	11	15
	1.22	2.22	1.82
nature	4	3	7
	1.22	0.61	0.85
no photo	5	7	12
	1.53	1.41	1.46
object	60	93	153
	18.35	18.79	18.61
political	4	0	4
	1.22	0.00	0.49
quote	26	31	57
	7.95	6.26	6.93
religious	37	43	80
	11.31	8.69	9.73
Total	327	495	822
	100.00	100.00	100.00

Table 6: Types of non-identifying pictures of entrepreneurs per gender

- Username:** The results show that there is a difference among genders in terms of using a real name (first name and surname), and using a nickname on Facebook. A strong negative relationship is proved between being a female entrepreneur and using a full name as a username on Facebook, with a coefficient of -0.237991 and a p-value of 0.000 . In contrast,

there is a strong positive relationship between being a female entrepreneur and using a nickname as a username on Facebook, with a coefficient of .1542108 and a 0.000 p-value.

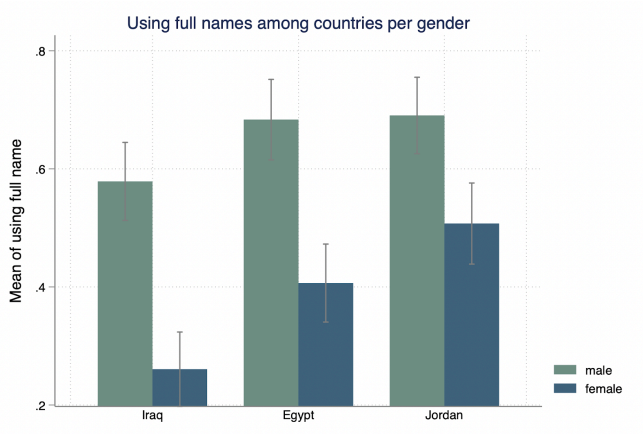


Figure 11: The usage of full names

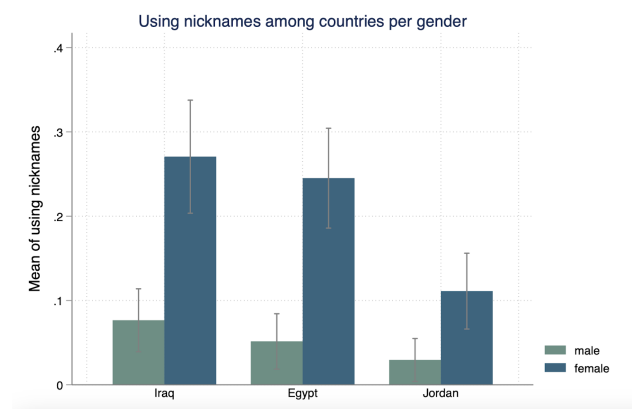


Figure 12: The usage of nicknames

- Business names:** The study of usernames in the sample shows interesting patterns surrounding using real names (first name or surname) in business names.
 - 87 of the 186 usernames connected to business names belonged to male users, while 88 belonged to female users. This implies that the gender distribution of business names is generally balanced. Among these 186 usernames, 68 people incorporated their names into their company names. The term "variations" here refers to things like utilizing the name as an object, adding Kunya “mother of” or "father of" titles, using adjectives, or adding the family name to the business name.
 - Resulting in no significant differences in using these variations among both genders, with the exception of women, who follow the business type with their names as an object. In this group, 31% of the females use their names like “Marwa’s Beauty” or “Haneen Shop” as a way of business formalization.

5.4 Gender differences in privacy settings

- **Message requests:** Disabling message requests is Facebook's function that lets users block message requests and communications from Facebook users who are not their friends. The analysis of the gender differences in terms of allowing message requests shows no relationship between allowing this feature and being a female entrepreneur, with a coefficient of -0.0030938 and a p-value of 0.645 . The analysis suggests that when it comes to setting up their privacy settings for message requests, male and female users are likely to have comparable preferences or behaviors.
- **Friend requests:** Disabling friend requests is Facebook's function that lets users decide whether or not to accept friend requests from other users. A statistically significant result is shown when gender differences in privacy settings for accepting friend requests are analyzed. The p-value of 0.008 verifies the significance of the somewhat negative correlation between being a female user and accepting friend requests, which is indicated by the coefficient of $-.0482525$. These results suggest that female users might be more selective or cautious when accepting friend requests on online networks.
- **Locked profiles:** A Facebook feature that shows a limited view of their profile content to people they are not friends with on Facebook. In my sample, this feature is exclusive only to Iraq and Egypt. The analysis revealed a significant relationship between having the profile locked and being a female in Egypt at the 0.10 alpha level, with a coefficient of $.0731707$ and a p-value of 0.093 . According to the positive coefficient, female entrepreneurs in Egypt are more likely than other user

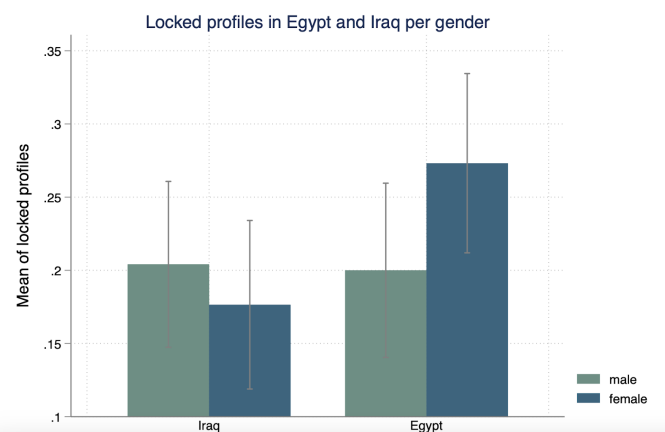


Figure 13: Locked profiles in Egypt and Iraq

categories to have their profiles locked. This shows that female users prefer only to allow people who are not their Facebook friends access to the information on their profiles.

- **Location on profile:** Facebook allows users to mention the area where they live on their profiles. The gender disaggregation analysis about privacy settings related to showing location on profiles reveals a negative association between females and displaying the living area on Facebook profiles only in Jordan, with a -0.1844693 coefficient and a 0.000 p-value. The negative correlation shows that, when compared to Jordanian male users, female users are more likely to restrict or decide not to reveal their location on their accounts. The difference in displaying location on Egyptian entrepreneurs' profiles is insignificant, and equal to the case of Iraqi entrepreneurs as illustrated in figure 14.

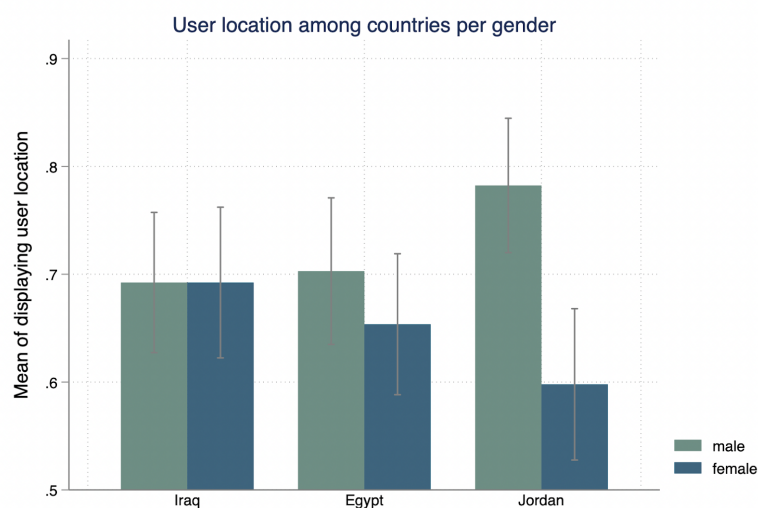


Figure 14: Displayed locations on profiles

Privacy index

I created a "privacy index," which is a composite measure that compares how much male and female business owners tend to reveal parts of their true identities and allow strangers to contact them, is shown in Figure 15. The privacy index incorporates the previously mentioned privacy setting-related factors, such as using identifying pictures, and full names, allowing message requests, allowing friend requests, and displaying location on profiles.

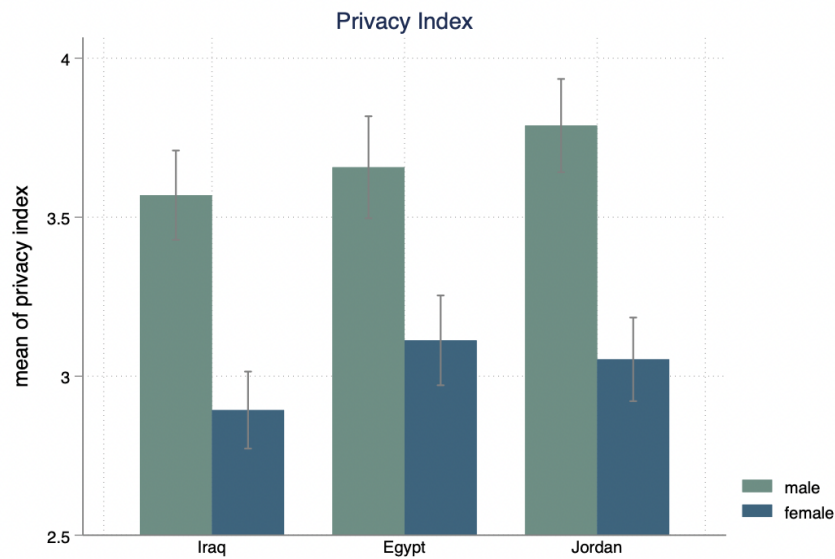


Figure 15: Privacy index across countries

5.5 Privacy concerns on business posts

The posts published by business owners contained valuable details to help potential clients get in touch, including phone numbers, address information, delivery alternatives, and sharing links for additional conversation through platforms like Telegram or WhatsApp. This strategy tries to make it easier for business owners and potential clients to interact directly and improve accessibility for clients to inquire about products or services by including such information in their posts.

- Contact methods:** The data shows gender differences in the preference for contact options and the inclusion of phone numbers in posts. In particular, a phone number is substantially more frequently included in posts by men than by women on average. This finding shows that men are more likely than women to list their phone numbers in posts as a way to get in touch with them. The regression analysis results of a coefficient of -0.3293481 and a 0.000 p-value support this hypothesis. A noteworthy result, however, is that 79% of people who prefer to be contacted using Facebook Messenger without providing a phone number are females, by asking post viewers to contact them only on Facebook Messenger. This finding means that female business owners could prefer using Facebook Messenger as their primary contact method rather than explicitly giving out their phone numbers.

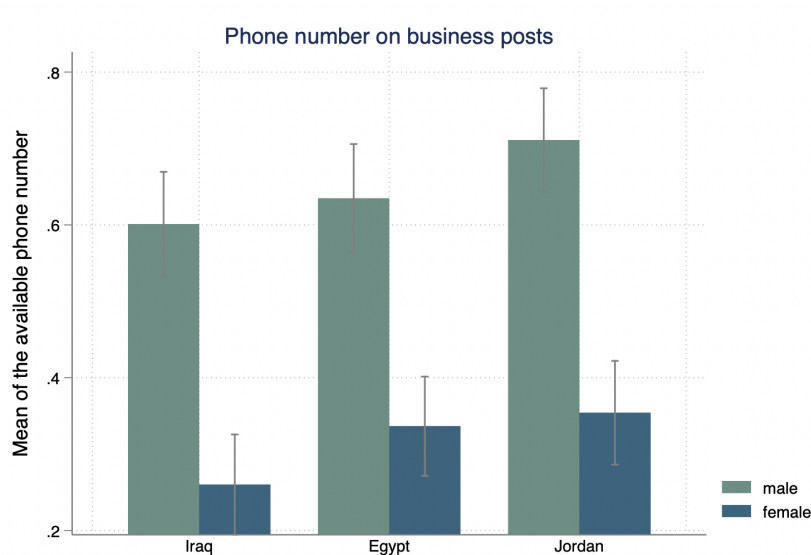


Figure 16: Adding phone number to business posts

- Business location:** A statistically significant result in Egypt is revealed by the analysis of the use of place-specific prepositions in texts referring to business locations, such as “we are located in”, “next to”, or “our location is”.

A weak negative relationship between being a female and specifying the business location in the post is indicated by the coefficient of -0.0804181 . The association is statistically significant at the 0.05 alpha level, as shown by the p-value of 0.027.



Figure 17: Adding business location to business posts

- **Links to other platforms:** 67 posts from the evaluated posts had links to other social media platforms. These links direct users to websites or applications like Telegram, Facebook pages, or WhatsApp which gives buyers and sellers the option to have more private interactions (Steel, 2017). Business owners hope to provide their audience with alternate channels for contact and involvement by incorporating these links. Instant messaging features are available on platforms like Telegram and WhatsApp, enabling straightforward and practical communication between business owners and potential clients. Users can start chats or ask questions by clicking on links to these popular messaging services. Additionally, linking to particular Facebook pages enables business owners to present more in-depth details about their goods, services, or brand. These pages frequently contain more text, pictures, client feedback, and updates, giving potential customers a deeper insight into the business and its products/services.

Hypothesis #3: Real identity leads to higher interaction on Facebook group posts and, therefore, higher potential business orders via Facebook.

I updated the interaction levels on posts three months after the collection of the 1350 observations from posts and profiles. The updated data shows that the interaction rates in the three nations that were looked at—Iraq, Jordan, and Egypt—are noticeably different. Posts in Iraq and Jordan received a significantly higher degree of interaction than posts in Egypt, according to the interaction rate, which measures the level of engagement or response to the postings.

Country	Average number of liked posts
Egypt	8%
Iraq	22.6%
Jordan	24.4%

Table 7: Average interaction on posts per country

5.6 Interaction rates based on profile characteristics

The analysis of interaction on posts reveals that users with potentially-identifying profile pictures get more interactions on their posts than users with non-identifying pictures as shown in figure 18.

This suggests that individuals tend to have better levels of engagement and contact from other users

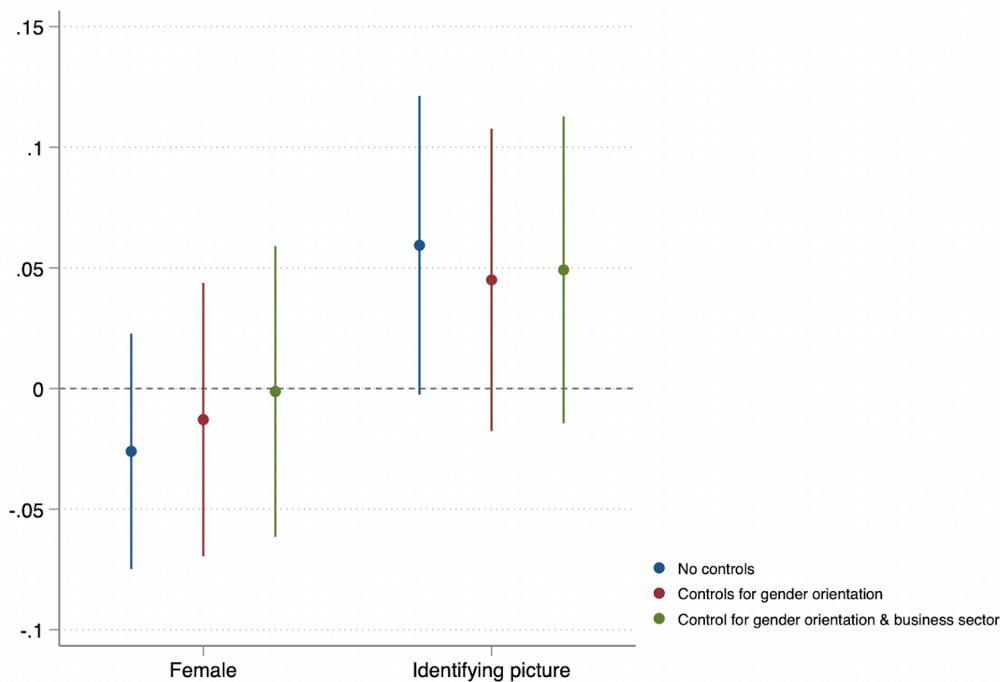


Figure 21: Coefficient plot of the regression of post likes on female and identifying picture

when they present recognizable identities in their profile pictures, such as their face.

Additionally, males in the sample get more interaction on their business posts more than their female counterparts as shown in figure 19. Finally, the analysis of the combination between all these variables (gender, picture identification, and post-interactions) shows that conditional on not having identifying pictures, men and women get similar interactions on their posts, yet, conditional on having identifying pictures, men get more interactions on their posts as shown in figure 20.

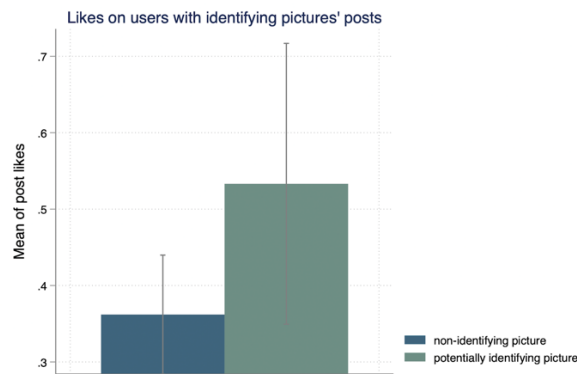


Figure 18: Likes on users with identifying pictures' posts

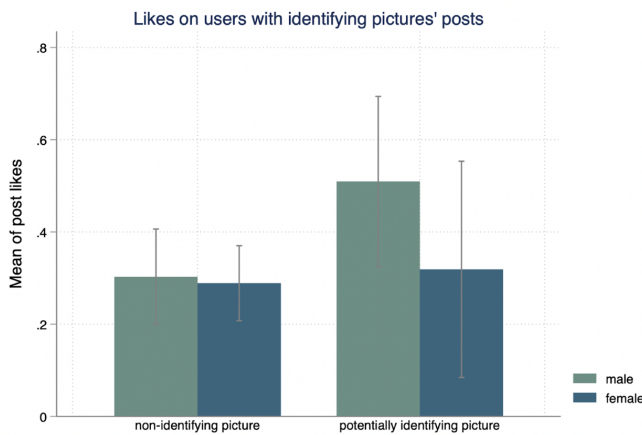


Figure 19: Likes on users with identifying pictures' posts per gender

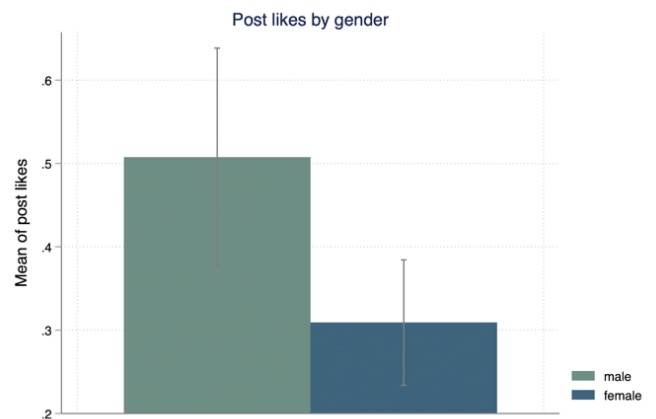


Figure 20: Likes on posts per gender

Figure 21 plots the coefficients of linear regression of post likes on females, identifying pictures, controlling for gender orientation and business sector of the post. The results show that having an identifying picture is positively associated with post likes with a coefficient of .0593739 and a p-value = 0.06 which is significant on the 10% alpha level when there are no controls.

Table 8 displays the findings of a regression analysis that looked at the effect of postings made by women on interactions between men while controlling for countries. The coefficient of -.243 and a statistically significant p-value of .002 show that there is a notable negative relationship between being a woman and encountering male contact on business-related posts.

The regression outcomes shown in Table 9 further provides conclusions in terms of the gender of the post liker; A coefficient of -.141 and a statistically significant p-value of .005 in this table show a substantially negative relationship between the presence of male engagement and the posting of female-oriented enterprises. The findings from both tables suggest that when the focus is on female-oriented products, there is a tendency for less male engagement.

male_interaction	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
female_b	-0.243	0.075	-3.26	0.002	-0.391	-0.095	***
country : base Iraq	0	.	.	.	.	.
Egypt	-0.191	0.147	-1.30	0.196	-0.483	0.1	
Jordan	-0.099	0.155	-0.64	0.525	-0.407	0.209	
Constant	0.551	0.152	3.63	0	0.25	0.853	***
Mean dependent var	0.332		SD dependent var		1.307		
R-squared	0.013		Number of obs		1201		
F-test	4.051		Prob > F		0.010		
Akaike crit. (AIC)	4043.082		Bayesian crit. (BIC)		4063.446		
*** $p < .01$, ** $p < .05$, * $p < .1$							

Table 8: Linear regression of male interaction on females' posts

male_interaction	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
female_b	-0.072	0.07	-1.03	0.305	-0.21	0.066	
female_oriented_b	-0.141	0.049	-2.89	0.005	-0.238	-0.044	***
country : base Iraq	0	.	.	.	.	.
Egypt	-0.068	0.098	-0.70	0.489	-0.263	0.127	
Jordan	-0.065	0.082	-0.79	0.433	-0.228	0.098	
Constant	0.366	0.066	5.51	0	0.234	0.497	***
Mean dependent var	0.251		SD dependent var		0.948		
R-squared	0.008		Number of obs		1071		
F-test	5.179		Prob > F		0.001		
Akaike crit. (AIC)	2924.854		Bayesian crit. (BIC)		2949.735		
*** $p < .01$, ** $p < .05$, * $p < .1$							

Table 9: Linear regression of male interaction on female-oriented business

Additionally, a variable with four different categories was created in order to enable a more thorough analysis of user profiles in relation to their interactions. The existence or absence of a full name and an identifying profile picture is the precise combination of profile characteristics that this variable seeks to capture. I defined each category as follows: category:

#1: No full name with non-identifying picture

#2: Full name with non-identifying picture

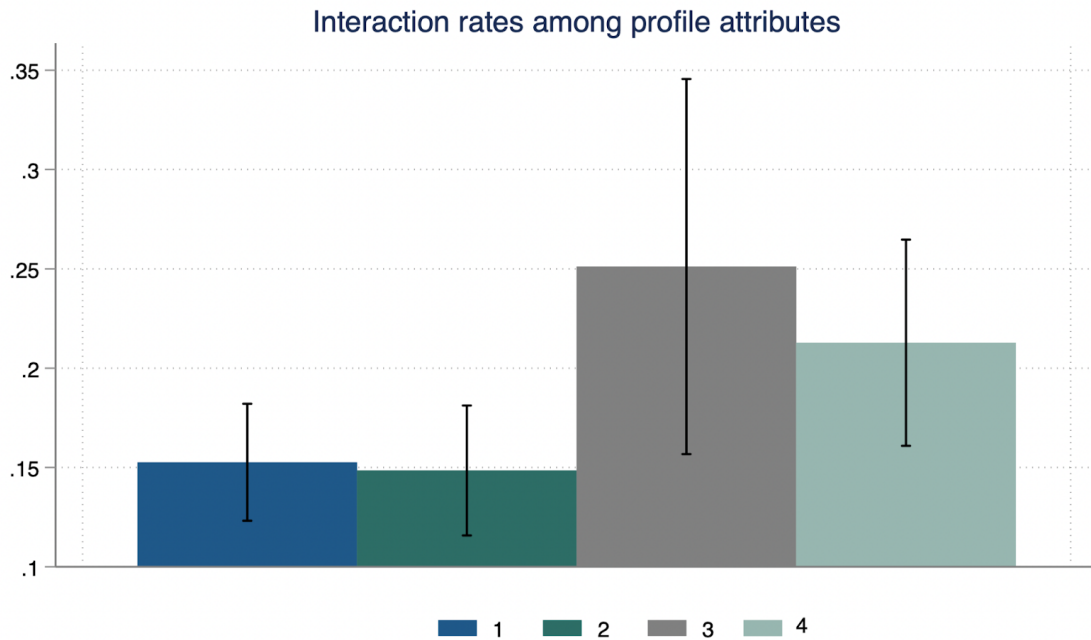
#3: No full name with identifying picture

#4: Full name with identifying picture

Based on the sample of users examined for this study, I find that 44% of the users fit into the first category, 30% into the second, 5% into the third, and 21% into the fourth. I defined these categories based on whether or not their profiles included an identifiable image and a full name. Figure 20 visualizes the data and draws attention to this pattern. It demonstrates that postings from users in the third and fourth groups, who at least had an identifiable photo connected with their posts, received the highest average number of interactions. This shows that posting an identifiable photo may increase the amount of engagement and interaction a post receives.

On the other hand, only 30% of all likes were given to postings by people who did not include an identifying image. This suggests that, in comparison to posts that do feature an identifying photo, those without one may potentially have lower levels of engagement and receive a lower percentage of likes.

The findings of this study shed important light on how profile pictures may affect user engagement and highlight the importance of visual cues, particularly identifying images, in the context of online interactions, and trustworthiness.



N=1104. Vertical bars represent confidence intervals at the 90 percent confidence level

Figure 20: Interaction rates among profile attributes

Hypothesis#5: Men and women approach potential customers differently while writing post-content.

In this section, I highlight the gender variations in the content of the postings by reflecting results of the LIWC-22 text analysis. The data clarifies how language used in posts while interacting with potential customers differs between males and females. By examining these differences, I reflect how the communication tactics each gender uses to reach out to their target market and successfully market their businesses.

This section also contains the regression analysis results that looks at the relationship between some variables in the LIWC-22 and the hypotheses formed in this thesis; I investigate the statistical relationships between the language aspects recorded by LIWC-22 and the hypotheses on gender differences, identity disclosure, and engagement on Facebook group postings.

5.7 Gender differences in textual post content

I used the LIWC-22 (Linguistic Inquiry and Word Count) software for text analysis to understand better the content and linguistic trends in group members' postings. The famous text analysis tool called LIWC-22 looks at the linguistic elements and emotional emotions inherent in written text. Recognizing and quantifying different language characteristics, such as emotional tone, cognitive processes, social interactions, perception, emoji usage, and linguistic style is feasible. This comprehensive analysis gives an insightful understanding of the psychological and communicative aspects of the group members' contributions, fostering a more nuanced appreciation of their experiences, viewpoints, and interactions within the public Facebook group.

Emotions

This part of the analysis focuses on locating and classifying the emotions communicated in the texts by post-authors. The group members expressed a variety of emotional states under the "Emotion" category. Words like "good," "love," "happy," and "hope," which express feelings of joy and optimism, were included in this group. The group also included words that denoted unpleasant sensations, such as "bad," "hate," "hurt," and "tired," which denoted feelings of misery, aversion, pain, and tiredness. The analysis aims to capture the emotional landscape inside the texts and acquire insights into the overall emotional tone of the postings by looking at the occurrence of these particular words. As a result, the mean of females who use emotional words in their postings is more than double of males in the total sample (1.207 for females and 1.67 for males), as shown in the first row of Table 11.

Cognitive processes

I also examined the cognitive processes reflected in group members' texts. The "Cognitive Processes" category included several word groups that reflect how people articulate their ideas and thinking. Words like "but," "not," "if," and "or" made the usage of conditional and contrasting expressions stand out. Additionally, terms like "know," "how," "think," and "feel" offered hints of

understanding and introspection. Words like "because," "make," and "why" were used, which highlighted the works' use of causal reasoning and inquiry. Words like "really," "actually," "of course," and "real" also denoted statements of certainty or assurance.

According to the analysis of word usage in the whole sample, males generally have a larger tendency to include cognitive processes and participate in cognitive thinking in their written representations; with a mean score of 5.047 in the category of cognitive words, while females had a considerably lower mean score of 4.279.

Social Processes

Analyzing the texts' use of social processes offered results on how people participated and had social interactions inside the online community. The "Social" category (row 8 in table 11) included expressions like "you," "we," "he," and "she," which denoted references to particular people or groups. In the "Politeness" subcategory (row 9), words like "thank you," "please," "thanks," and "good morning" were also analyzed. These results emphasized the significance of maintaining polite communication by highlighting expressions of gratitude and courtesy. Additionally, phrases like "said," "say," and "tell," which denote the act of exchanging information or thoughts, were taken into account under the "Communication" subcategory. Interesting differences in social word usage across genders and Egypt, Iraq, and Jordan were found through analysis. With a mean score of 9.078, compared to 8.344 for females, Egyptian males were shown to be more likely to incorporate social words in their texts. This shows that men in Egypt are more inclined to use language in their writing that refers to other people and reflects social interactions. Opposite results were seen in Iraq, where females had a higher mean score of 9.291, indicating a greater tendency to utilize social phrases than males, who had a mean score of 7.695. However, in Jordan, the use of social words seemed to be more evenly distributed between the genders, suggesting that social language was used at comparable levels in their texts. These differences in mean scores between

countries show how cultural and social factors affect the language traits and communication practices people use in those nations.

Perception

In order to understand more about how people convey their perceptions and experiences, the analysis of the Perception category included several subcategories, like attention, motion, visual, and feeling. Words like "look," "look for," "watch," and "check" in the "attention" subcategory denoted a concentration on observing or paying attention to something. Words like "go" "come" "went", and "came" which denote motion or changes in position, were included in the "motion" subcategory. Moreover, words like "see", "look", and "saw," the "visual" subcategory emphasized the visual component of perception. Last but not least, the "feeling" subcategory had terms like "feel," "hard," "cool," and "felt," indicating individual feelings or sensations.

The Perception category analysis sought to understand how people characterized how they perceived the world around them, considering aspects of attention, motion, visual experiences, and subjective sensations. As a result, males in the overall sample had a mean perception score higher than females, 8.218; this finding suggests that males are more likely to utilize words associated with perception in their texts. In contrast, women's mean scores in the same category were slightly lower at 7.34. According to this, men were generally more likely than women to use perception-related vocabulary.

Emojis

Differences were found in analysing emoji usage in post messages by gender across several nations. In Egypt, men used emojis on average at 3.317, while women used them on average at 6.833, showing that women are more likely than men to use emojis in their texts. In Iraq, similarly, males had a mean score of 8.184 while females had a marginally higher mean score of 10.18, indicating that Iraqi females were more likely to use emojis. The average score for men in Jordan was 6.592, while the average for women was 8.657, showing a similar pattern of more frequent emoji use

among Jordanian women. Males in the entire sample had a mean score for emoji usage of 6.117, while females had a higher mean score of 8.725, indicating that females are more likely to use emojis in their post texts. These results demonstrate the gender variations in the use of emojis across various countries, with females generally displaying a more significant rate for doing so in their online postings.

Linguistic dimensions

The LIWC-22 category of Linguistic Dimensions has several subcategories that focus on people's language preferences and patterns. Total function words, impersonal pronouns, determiners (articles and numbers), adverbs, and other language elements are among these subcategories (row 13, table 11)

The following results show the differences in mean scores for females and males across the entire sample and different countries based on the analysis of the linguistic dimensions in the LIWC-22.

In the overall sample, females used linguistic dimensions somewhat more frequently than males, who had a mean score of 49.53, with a mean score of 52.33 for females. Even if the difference is not significant, it raises the possibility that female writers are employing more complex language in their posts. When looking at the results by country, Iraq had a higher mean score for females than for males (55.73 vs. 49.35). This indicates a more pronounced disparity between genders in the use of linguistic dimensions in Iraq, with females often using more linguistics. In Jordan, the differences between males and females were less pronounced, with females scoring an average of 50.33 and males scoring an average of 49.75. This suggests that genders in Jordan use linguistic dimensions comparatively similarly. Similar results were found in Egypt, where males had a mean score of 49.47 and females of 50.22, indicating no appreciable differences in using linguistic dimensions between males and females in Egypt. These results reveal potential regional differences by shedding light on the linguistic patterns seen in posts written by both males and females.

		Egypt				Iraq				Jordan				Total			
		Male		Female		Male		Female		Male		Female		Male		Female	
	LIWC Category	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err
1	Emotion	0.5158	0.1315	1.309	0.3861	0.8055	0.1528	1.263	0.1514	0.6667	0.1090	1.067	0.3068	0.4948	0.0756	1.207	0.1612
2	Positive Emotions	0.1953	0.0766	0.8417	0.3777	0.3771	0.115	0.480	0.0881	0.4594	0.0936	0.722	0.295	0.352	0.0562	0.664	0.1502
3	Negative Emotions	0.3206	0.1020	0.383	0.0902	0.386	0.0914	0.738	0.1298	0.1699	0.0529	0.2708	0.0793	0.2869	0.0474	0.477	0.0618
4	Cognitive processes	4.872	0.2119	4.519	0.2124	4.854	0.4296	4.163	0.397	4.694	0.359	5.004	0.387	5.047	0.3220	4.279	0.312
5	Insight	0.9297	0.154	0.963	0.1898	0.7483	0.1896	0.8756	0.132	1.042	0.1603	0.929	0.1433	0.9116	0.0977	0.918	0.087
7	Certitude	0.0917	0.0366	0.1878	0.0607	0.2675	0.0757	0.095	0.0343	0.2105	0.0566	0.1399	0.0544	0.1931	0.0343	0.1364	0.028
8	Social	9.078	0.752	8.344	0.8604	7.695	0.535	9.291	0.5217	9.030	0.5840	9.319	0.8127	8.606	0.3601	9.038	0.4180
9	Polite	0.579	0.3658	1.359	0.504	0.4042	0.229	0.1992	0.0565	0.509	0.1317	1.053	0.581	0.496	0.1425	0.8178	0.247
10	Communication	2.209	0.4172	1.795	0.462	1.4590	0.2619	1.055	0.1310	1.251	0.1675	1.62	0.345	1.6113	0.1659	1.458	0.1826
11	Perception	7.261	0.540	6.695	0.480	9.11	0.5767	7.11	0.385	8.213	0.4792	8.121	0.537	8.218	0.3076	7.34	0.272
12	Emoji	3.317	0.8086	6.833	1.041	8.184	1.361	10.18	1.231	6.592	0.831	8.657	1.096	6.117	0.6004	8.725	0.6661
13	Linguistic	49.47	1.21	50.22	1.362	49.35	1.101	55.73	1.21	49.75	1.07	50.33	1.145	49.53	0.6494	52.33	0.7206

Table 10: Results of the LIWC-22 text-analysis

Regression Analysis of LIWC-22 results in relation to the hypotheses

This section matches the LIWC-22 analysis with the previously tested hypotheses by examining relevant categories and their alignment with each hypothesis. Except for the first hypothesis, which compares the business posts' frequency per gender.

Hypothesis#2: *When posting businesses, women are likelier to post content tailored to other women;* Text specification of gender-tailored business posts.

To analyze this hypothesis, I look at particular LIWC-22 categories relevant to customizing content and language towards specific audiences, such as gender-related words and emotions.

- **Using female references:** The use of gender-specific words like "she," "her," and "woman" and female-oriented messages are strongly and significantly correlated. Particularly in Iraq (coefficient = 0.4311, p-value = 0.05) and Egypt (coefficient = 0.4502, p-value = 0.004), more ladies than males use references to other women in their posts. This implies that women in these countries are more likely to target other women in their posts and texts. However, with a coefficient of 0.12925 and a p-value of 0.252 in Jordan, the relationship is weaker, demonstrating a less strong association between the use of female references and female-oriented posts in this context.

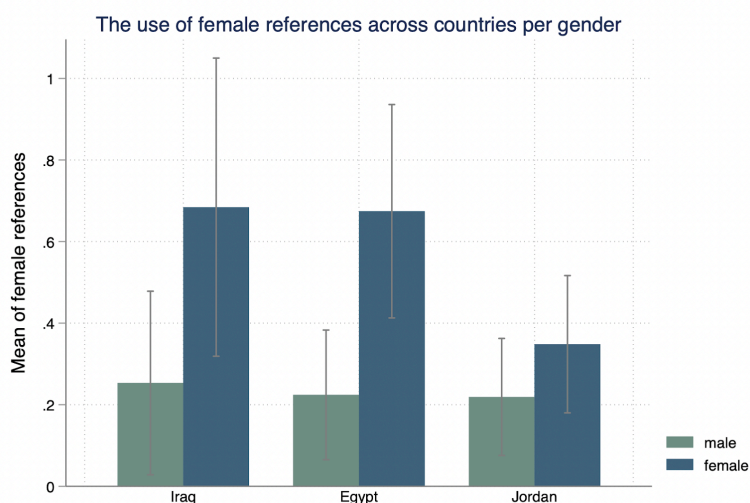


Figure 22: The use of female references across countries per gender

- **Using male references:** Unlike the use of female references, the relationship between using male related words (“him”, “his”, “he”, and “man”) by male post-authors is less significant. With a coefficient=.1852 and p-value= 0.142 for the total sample.

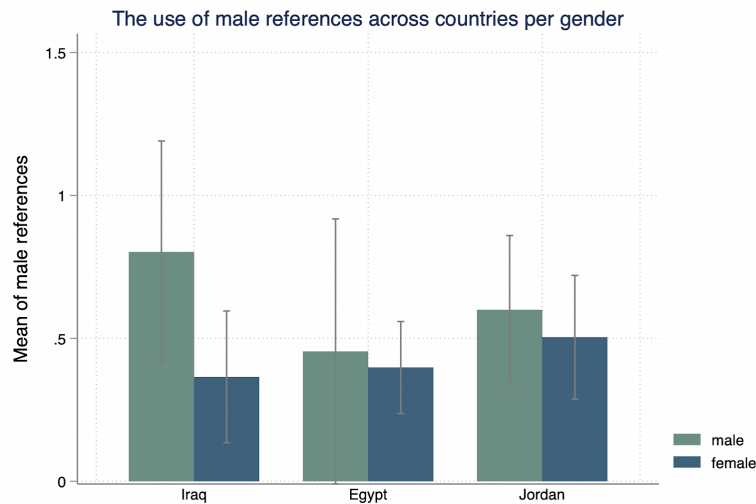


Figure 23: The use of male references across countries per gender

These findings emphasize the importance of gender-related language choices in online contexts and imply that women may be more likely to refer to other women when writing for certain audiences. Which supports the hypothesis that females tend to target women while posting for their businesses. As they also by adjusting the text that they are posting, and not only in the business products that they sell.

- **Emotions:** Overall, the relationship between female post-authors and using words that reflect negative and positive emotions such as “good” “happy” “afraid” “worry” is statistically significant with a coefficient .35168 and a p-value of 0.003.

As discussed earlier, females in the total sample are likely to post female-oriented business posts rather than neutral-gender or male-oriented business posts. The result of regression analysis of the “emotion” LIWC-22 category on female-oriented business posts posted by females is shown in table 12, which explains that the relationship between using emotional words and female-oriented posts is significant at the 10% alpha level when posted by users who pose as females.

emotion	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
female_oriented_b	0.275	0.151	1.82	0.069	-0.022	0.572	*
female_b	0.282	0.13	2.17	0.031	0.026	0.537	**
country : base Iraq	0	.	.	.	.	.
Egypt	0.428	0.153	2.79	0.005	0.127	0.729	***
Jordan	0.088	0.154	0.57	0.568	-0.214	0.39	
Constant	0.439	0.13	3.37	0.001	0.184	0.695	***
Mean dependent var	0.837		SD dependent var		1.839		
R-squared	0.024		Number of obs		883		
F-test	5.476		Prob > F		0.000		
Akaike crit. (AIC)	3569.369		Bayesian crit. (BIC)		3593.285		
*** $p < .01$, ** $p < .05$, * $p < .1$							

Table 11: Regression of “emotion” of female-oriented posts

Hypothesis#3: Women are more likely to hide parts of their identities in online spaces: Emotional expression in texts.

- Emotions:** According to the analysis of post texts' emotional content, there is no correlation between identifying images and expressing either good or negative feelings. With a coefficient of 0.07314 and a p-value of 0.820, the regression results specifically show no correlation between the inclusion of emotional phrases by females who have identifying photos. This implies that among females, the availability of identifiable images has little effect on how they convey their feelings in post texts. The absence of significance in this association suggests that females' use of identifying photos does not significantly affect how women express their emotions in online places.

- **Emojis:** As discussed in the previous section, females are more likely to use emojis in their post texts than their male counterparts. An intriguing result is revealed by the regression analysis looking at the relationship between emoji usage and identity revelation. With a coefficient of 6.808 and a p-value of 0.047, the findings show that females with an identifiable profile picture are more likely to use emojis in their texts than those without. This implies that emojis are closely linked to the expression of true identity among female users, and that women who are more forthcoming with aspects of their true selves are also more likely to use emojis in their online communications. This means that emojis may be used as a tool for self-expression and identity representation in online settings, as shown by the association between emoji use and identity disclosure.

Hypothesis#4: Real identity leads to higher interaction on Facebook group posts and, therefore, higher potential business orders via Facebook: Text specification could lead to higher interaction.

- **Emojis and interaction:** This part of the analysis yields a different result, in contrast to the fourth hypothesis's findings, which showed that sharing one's real identity on Facebook increases interaction. These findings are also consistent with earlier findings, which showed that users who pretended to be females and had identifying pictures used more emojis to express themselves and represent their identities. A strong negative relationship with a coefficient of -.0026932 and a p-value of 0.000 is found when analyzing the relationship between the quantity of likes on posts using emojis.
- **Emotions and interaction:** The conclusion regarding the association between female users and post likes is shown by examining post interactions and emotions: Male users typically obtain more interactions on their postings than female users, as was already mentioned in this thesis. A weaker relationship between post likes and female users is seen, though, when the influence of emotions on the post language is taken into account. The association between post likes and female users has a coefficient of -.0482766 and a p-value of 0.115 when controlling for emotions. This shows that when emotions in the post language are

controlled, the correlation between post likes and female users is not as significant. The results imply that the degree of interaction experienced by female users may be impacted by the presence of particular emotions in the post text.

5.8 Semi-structures online interviews

Sampling technique and data collection:

Convenience sampling was used to effectively collect information from people who were accessible and likely to know the research issue. It is crucial to be aware that this sampling technique may hold some biases because participants chose to participate, which could result in a sample not representative of the initial sample of 1350 observations collected from the Public Facebook Group. However, convenience sampling made it possible to reach people and gather essential data for the study practically and conveniently.

In addition to interviewing business owners that post on public Facebook groups, group admins were also interviewed. The main reason behind including group admins in the interviews is to deeply understand the mechanisms behind these groups and their perceived challenges and benefits. Interviews were carried out in Arabic as it was the native mother language of the interviewees. Subsequently, conversations were translated into English for this research.

Given that this thesis is not dependent on the interview responses for the analysis and given the low response rate of people to participate in the interviews, 8 semi-structured interviews were conducted online through Facebook messenger. It was noticeable that despite sending 70 Facebook messages to potential participants, only seven people were interested in joining a call.

Questions of the interviews were crafted in a way that further explores the main hypotheses of this thesis, for instance:

- **Questions to group admins:** Several questions were asked to the group admins to gain insightful information about their Facebook groups. They were first questioned about the primary motivation behind the founding of their groups, which provided background

information. Admins of women-only groups were explicitly questioned about how they confirm the gender of group members, as doing so is essential to maintaining the group's stated goals. Additionally, to understand the gender dynamics inside the group, I asked group admins about any gender differences in the content published in their groups, and in terms of identity disclosure. I also asked about the admins' thoughts on Facebook groups as safe spaces, reflecting their impressions of the culture and the community. Finally, I asked the admins about any differences in engagement levels on business-related postings based on the gender of the post-author and the identity disclosure.

- **Questions to group members:** I asked a set of questions to understand group members' experiences, starting by creating a participant's profile using the demographic data. I questioned members specifically about their businesses, including the nature of their business, the amount of their Facebook usage for business, and how they perceived the costs and advantages of using Facebook as a marketing platform. The degree of reliance on the social media platform for marketing was also evaluated to understand Facebook's position in the entrepreneurs' overall marketing plans. To comprehend the motivations and factors contributing to identity hiding, I asked the members questions about the reason why they kept certain aspects of their true identities hidden from the group. To determine whether people who have a closer link to their real identity participate more actively in group discussions and activities, the relationship between one's real identity and online activity within the group was also investigated. These queries can be used to thoroughly understand group members' experiences, viewpoints, and actions concerning their businesses and online personas in public Facebook groups.

Group admins interview responses

Interviewee	Group Type	Country	Reason behind creating the group	Gender difference in posting behaviours	Privacy and Identity
Female#1	Private women-only group	Jordan	I started the group to start selling on it for 3 years; it is women-only because I usually do not prefer dealing with men a lot. The whole idea behind Aloe Vera is to provide a safe space for girls and support each others' business, talk and support each other.. "Girls Power" is very important to me. I also verify the gender of the members by having them answer some make-up-related questions before they join the group.	Not applicable	Many girls create account with their parents. Also, they might have a fake account just to post freely on big private groups because some of their relatives might be present in these groups too.
Female#2	Public mixed group	Egypt	I have a women-clothing business. I wanted to compile all my online customers in one place, so I created this group 3 years ago. By that time, more people had started joining and posting business-related content there, and I am happy with that! I keep it safe by blocking members from posting inappropriate	It only differs in terms of the products/services being offered. But generally, since women are usually at home and need to buy more self-care products, they prefer to order online. On the other hand, men are always out, and they can find whatever they need on the street.	Girls usually prefer to hide their pictures more than names; that's probably because of the "jealousy" of male family members or the fear of the community to be photoshopped, just like what happened to Basant, who committed suicide after being blackmailed and
Male#1	Public mixed group	Egypt	I needed to advertise more for my business, especially when I launched it. So, I started the group 5 years ago to keep my customers updated about my business. But by then, people started posting on it, and it became a place for selling and buying products.	It only differed in terms of the products/services being offered. It depends on the profession and specialization... and what the entrepreneurs have learned. But the fact that women target women because they do not want to deal with men, and vice versa, no longer exist. People nowadays work so that they can afford food, even if I am selling for an "alien".	Some girls choose to hide their identity due to the criticism they face; culture also plays a role in the decision to show/hide their real identity on social media! That's why generally, it is better to have separate accounts and phone numbers for the business

Group members interview responses

Interviewee	Country	Business marketing practices	Privacy and identity	Pros and cons of FB public groups
Female#1, 63 years, married	Jordan	I have a home-based sewing business and I've marketing for it on Facebook and Instagram since 6-7 years. I usually depend on FB to announce new discounts.	I use my business page to post on groups, it is better not to show my personal name and picture, because from my experience, some random people would call me on Messenger at night and send inappropriate messages.	I post on Facebook groups so that new people can know about my business, also it is an easier way for marketing, specially when there's delivery service. But the thing is that I do not usually get interactions when I post there.. I do not know why.
Female#2, 54 years, married	Jordan	I make food and sell from home, Thank God, a lot of people know my business. I have been marketing on Facebook and Instagram since 2 years and my sales have increased by 50% almost.	I usually post from my business page on public groups, but either way I do not show my picture on my personal profile due to religious reasons. Overall, I think online trading is becoming more honest and trustworthy nowadays.	The only drawback of groups is that admins sometimes do not accept my posts. On the otherhand, many group members now know about my business!
Female#3, 18 years, single	Iraq	I started selling cosmetics and skin care products two months ago, I operate from home, and some people come to me to buy. But I mainly depend on Facebook and Instagram for my sales.	My parents do not allow me to use my real name and picture on Facebook, but I think my account would seem more credible if I show my real identity on Facebook.	Since my business targets both genders then it is easier for me to post on mixed facebook groups along with my Instagram page. So far, I haven't encountered any challenges.
Female #4, 27 years, married	Egypt	I have a group on WhatsApp and a page on Facebook where I show them my work, and whoever needs something can talk to me privately and book it while I collect orders and start handing them over to the clients, and this is considered a very good job for women who do not have the possibility to leave their home and children and go to work every day	I use my full name on Facebook.	I used to post a lot on public Facebook groups a lot before I got married, and I used to join groups for my location, Al Mansoura. I used to deliver the products myself to my customers. But now I am afraid that someone will book an order with me, and at the time of receipt, block me and not receive it. Therefore I only target my friends, relatives, my acquaintances.

Main findings for each hypothesis:

Hypothesis#1: Men tend to post business-related posts on public groups more than women

The results of the data analysis of the observations collected from public Facebook groups align with the statements provided by the group admins regarding this hypothesis. Overall, the group admin found no appreciable differences between men and women in terms of posting frequency. However, they also point out differences in the kinds of products/services sold by both genders within the groupings. The conducted interviews support the conclusions drawn from the data analysis and provide additional evidence that there are no appreciable disparities between men and women in the posting rates of business-related information in the public groups under my analysis.

Hypothesis#2: When posting businesses, women are more likely to post content tailored to other women

Several observations were made based on the replies given by group members regarding the variations in postings between genders. It was noticed that the main distinction between the genders may be seen in the products that are being marketed, with women frequently posting about skincare and clothing, while males typically highlight their shops and professions. Other mixed-gender public groups were also mentioned, which are quite beneficial, especially ones concentrating on marketing for food-related businesses. These results indicate that, although there may be differences in the kinds of businesses being promoted by various genders inside Facebook groups, overall, a mix of gender-specific and mixed-gender content contributes to the diversity of postings within these groups.

Participants gave a variety of justifications for why women choose to target other women in their businesses. These factors include the women's profession and area of expertise, the ease with which products may be delivered to women who are frequently at home, the alignment of the business area of expertise with women's interests, and individual or cultural preferences. Others acknowledged

the market potential of focusing on women specifically, and others highlighted the potential shift to cater a more comprehensive audience range.

Hypothesis#3: Women are more likely to hide parts of their identities in online spaces

Several factors were emphasized throughout the interviews with group admins and members about why some women would conceal their true identities in online spaces. These factors include worries about criticism, cultural norms and expectations, fear of being targeted or photoshopped, religious concerns, and a need for privacy and security. To maintain a separation between personal and professional identities, some participants highlighted opening separate business accounts, while others emphasized using fake names and limited sharing of personal images. An interview with a young lady also reported cases in which they created accounts without their parent's knowledge or used fake identities to interact in private groups too freely. The information provided by these findings highlights the different factors that affect women's decisions to hide their true identities online.

“Harassment levels in Egypt used to be higher before, but in Egypt, people were raised in a religious, conservative environment. Therefore when they are indulged in an "open-minded" environment, then it would be strange for them. Also, when girls usually use fake accounts to market for their businesses because there might happen some problems between the girl and the customer, and she may be put in the position of having her image published in a bad way. Therefore most of the currently published posts are not published by real accounts.”

(Egyptian Male, Public Facebook Group Admin)

Hypothesis#4: Real identity leads to higher interaction on Facebook group posts and, therefore, higher potential business orders via Facebook.

Participants gave various answers when asked whether they thought utilizing a real identity on Facebook could increase interaction and present commercial chances. According to some participants, using real names is preferred since it helps weed out false accounts that might engage in dishonest actions like placing orders without paying.

Others noted that business-related images frequently garner more responses, suggesting that using one's genuine identity can improve connection with potential clients. While several participants underlined the legitimacy of using a real name, others said that it might be more useful to have a separate business page. The observations show a general consensus that utilizing one's real identity on Facebook might enhance communication and business opportunities, enhancing trust and authenticity.

“If a user is using his real photo, and the potential customer goes through his profile and sees his pictures with family and friends, that would increase the trustworthiness of the business owner; even if he asks for a down payment, much more than the account that do not have any features. This is very important, but not everyone understands this point. Having a real picture would affect the purchasing choice in not less than 30%.”

(Egyptian Male, Public Facebook Group Admin)

5.9 General comparison groups from the US

As part of this thesis, I collected 45 observations from selling & buying public groups in the United States of America. This sample is also not representative on the country level, but it is only used to get a sense of the general differences between Arab and Western cultures.

This section will show the results of testing the first three hypotheses of this thesis. The hypothesis regarding post-interaction was not tested due to the small sample size.

- *Hypothesis#1: Men tend to post business-related posts on public groups more than women*

Business posts are 68% posted by male users, and 32% by female users in this sub-sample.

- *Hypothesis#2: When posting businesses, women are more likely to post content tailored to other women*

The relationship between being a female and sharing female-oriented business posts is weak, with a coefficient of .275 and a p-value 0.278. Unlike the sample from the Arab countries where the

relationship between female-oriented businesses and female authors was a strong positive one, with a coefficient of .2973317 and a p-value of 0.000.

- *Hypothesis#3: Women are more likely to hide parts of their identities in online spaces*

The gender comparison of the cumulative privacy index that includes identifying pictures, full name, allowing message requests, allowing friend requests, and displaying location on profiles, shows that there is significant difference among genders in terms of privacy. Unlike the sample collected from Egypt, Iraq, and Jordan where women were significantly more likely to hide parts of their identity online, figure 24 shows that males in the United States are slightly more likely to have privacy concerns

It is noteworthy that I observed some differences in terms of the quality of pictures posted by American members and Arab members, as well as a variation in the publicly available information on the user profile such as posting family pictures, life events (new job, new address), and marital status.

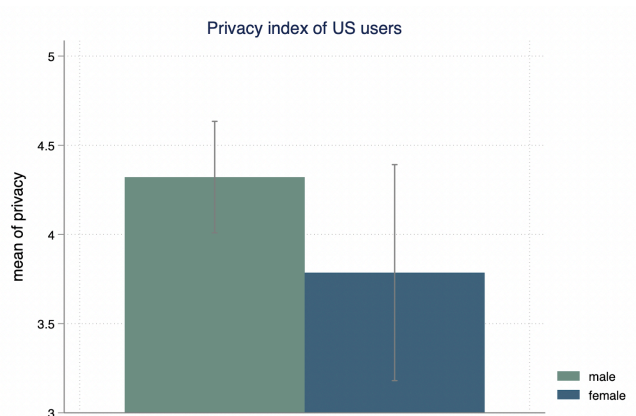


Figure 24: Privacy index of members of US Public groups

6. Discussion

This study aimed to answer the paper's research question: **How do Facebook business practices differ across men vs women?** Mainly by taking case studies from 90 public buying and selling Facebook groups in Egypt, Iraq and Jordan and conducting semi-structured interviews with group members and admins. This research was built on five hypotheses which assumed that there are gender differences in online practices in terms of posting activities, gender-tailored content,

revealing parts of real identity online, interaction on posts depending on identity revealed, and finally, the way entrepreneurs adjust their post-texts to approach potential customers.

Broadly, I find evidence that there are no gender differences in the frequency of posting business content on public Facebook groups in the total sample. Nevertheless, when posting business content, women are more likely to target other women by selling female-oriented products. This evidence was also observed by group members and admins who presumed that women's professions, expertise, cultural preferences, and mobility constraints are the main reasons behind this result.

Additionally, there is a remarkable difference between men and women regarding revealing parts of their real identity online. For instance, this paper classifies profile pictures into identifying (which indicates the user's identity) and non-identifying pictures (which do not indicate the user's identity). Also, this paper classifies usernames into real names (first and last names) and other usernames (nicknames, business-related, kunya). As a result, I conclude that women entrepreneurs are significantly less likely to use pictures that indicate their identity and real names.

Next, I provide evidence that users that are using at least a potentially identifying picture are more likely to receive interaction on their posts. Furthermore, the paper proved that females do not usually receive interaction from their male counterparts on their posts, which the hypothesis can explain that claims that women target other women in their businesses.

The current study also presented the differences between genders in terms of the way they adjust their posts' texts while approaching new customers. The paper showed that the females in the total sample tend to use more emotional, social, and linguistic words and emojis than males in their texts. On the other hand, males use cognitive and perceptual words more than females.

I also connected the text analysis results with each of the hypotheses' results. Generally, the correlation shows that females are significantly more likely to use female references and emotional words in their business posts; this supports the hypothesis that women target other women in their

businesses. Whereas the relationship between using male references and males is less significant, and that is because males sell neutral-gender businesses more than females.

Additionally, when looking at the parts of identity reveals and the text characteristics of users, the analysis shows no relationship between females with identifying pictures and the use of emotional words. Nevertheless, the analysis revealed that women with identifying pictures are more likely to use emojis, which means that emojis are closely linked to the expression of true identity among female users. Finally, while looking at the engagement levels concerning the text characteristics, the paper reveals that emojis have a strong negative relationship with the level of interaction on posts. Furthermore, as a result of controlling for emotional words in the texts, this paper found that the degree of interaction of posts of female users may be affected by the presence of particular emotional words in the post text.

Outcomes of the semi-structured interviews further backed up these results; For instance, the interviews done as part of this study confirmed and supported the data analysis findings, which showed no appreciable differences between men and women in their posting rates of business-related information on public Facebook groups.

Furthermore, participants discussed various factors, such as professional considerations, the ease of product delivery to women at home, alignment with women's interests, and personal and cultural preferences, as to why women frequently target other women in their businesses.

The interviews likewise shed light on why some women hide their identities online, with some citing worries about criticism, adherence to cultural norms and expectations, fear of being singled out or misrepresented, religious considerations, and a need for privacy and security.

Finally, Participants preferred real identities over fake ones when using real names and pictures on Facebook because it made it easier to spot and remove fake accounts that might engage in dishonest behaviour like placing orders without receiving payment.

Additionally, business-related pictures obtain more replies and engagements, showing that connecting with potential customers more authentically might strengthen relationships. Others noted the usefulness of having a separate business page, while several participants emphasized the legitimacy of utilizing real identities. These observations thoroughly comprehend how identity representation and disclosure affect Facebook engagement and business potential.

6.1 Limitations

The limitations of this study should be considered when interpreting the results. First, it is suggested that the difficulties in compiling all available observations on public groups contributed to the study's lack of national representativeness and may have limited the applicability of the findings on the country level. Second, a small sample size for the interviews was achieved due to the limited number of interviews due to group members' indicated reluctance to be reached via instant message. Additionally, the data collection took place over a certain period, so it is possible that the results do not fully apply to the entire year.

Despite significant attempts to attract potential interview participants, Jordan's response rate among male participants was noticeably lower than in other countries. Another drawback is the removal of business pages from the analysis, even though some business owners prefer them for privacy reasons.

7. Conclusion

In conclusion, this study investigated Facebook business activities between men and women in conservative nations. According to this paper, there are no appreciable gender differences in the frequency with which business content is posted in public groups. Women, meanwhile, frequently use women-specific information to target other women. While real identity positively affects post-interactions, women are more prone to conceal portions online. Between genders, there are differences in the vocabulary used to approach clients, according to the text analysis. Overall, these findings offer insightful information for future research and shed light on gender-specific behaviours in online business.

8. Recommendations

As they seem to be a favoured medium for business owners seeking privacy and marketing advantages, business pages should be explored in further research on social media entrepreneurship. Incorporating business pages into the analysis would provide insightful information on how entrepreneurs market themselves and their businesses to a larger audience. Additionally, comparing private and public groups' information could help better understand how gender inequalities and entrepreneurial practices vary throughout various online spaces. To gain a more profound knowledge of how entrepreneurs use social media for business, comparing the content, engagement rates, and identity disclosure of these groups would be helpful.

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10. List of appendices

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Appendices

Appendix 1: Example of posts on Public groups with English translation

The screenshot shows a Facebook post from a public group in Jordan. The post is in Arabic and describes a real estate listing for a fourth-floor apartment. Below the Arabic text is an English translation of the same text. The post includes several images of the apartment's interior, showing the living room, kitchen, and bedrooms. The group's name is 'سوق عجلون للجميع' (Ajlun Market for All) and it has 1.8K members. The post is by D Fadi Ababneh, posted 2 hours ago.

Source: Public Facebook Group in Jordan

Appendix 2: An example of a female's account using a religious display picture with the name "Mother of Zahraa"

The screenshot shows the profile page of a Facebook account named 'ام زهراء' (Mother of Zahraa). The profile picture is a circular image of a mosque. The cover photo is a large image with Arabic calligraphy that reads 'ليس كل من آواه الأصف' (Not every one who is given the green flag). The account has 325 friends and is public. The page shows a post from March 21, 2022, featuring a close-up image of a hand holding a pen, with a ring visible on the finger. The account's bio is 'حساب فقط للعمل' (Account for work only).

Source: Facebook account

Appendix 3: Text message send to Facebook groups members

“Hello, how are you? My name is Lara and I am a master's student at Charles University in Prague. I am doing my dissertation on how entrepreneurs in some Arab countries use Facebook groups to market their projects. I saw that you are an admin on [the name of the group]. I would like to benefit from your experience and ask, in your opinion, how groups benefit people and what are the ways in which they market. If you have time, I would love to ask you some questions in this regard”

Appendix 4: Text message send to Facebook groups members

*“Hello, how are you? My name is Lara and I am a master's student at Charles University in Prague. I am doing my dissertation on how entrepreneurs in some Arab countries use Facebook groups to market their projects. I saw that you made a post on a Facebook group for marketing. I would like to ask a few questions about whether you benefit from posting on groups, or if you have any comments about the possibility of improving your experience in them.
If you have time, I would love to ask you some questions in this regard”*

Appendix 5: Interviews Questions to group members

Category	Questions
Demographics	Age, gender, country, marital status
Facebook usage	<ul style="list-style-type: none"> - For how long have you been using FB for business purposes? - Do you operate from home or outside? - What kinds of business-related Facebook activity have you carried out? (for instance, publishing material, setting up company pages, placing adverts, and joining groups) -Do you have a virtual customer base? As in people who follow you and try to keep up to date with your new products
Perceived Benefits and Challenges of Facebook groups	<ul style="list-style-type: none"> -In your opinion, what are the benefits of using Facebook groups for business purposes? - And what are the challenges? - (For women): Do you usually receive harassment messages or comments when you post online?
Real identity and interaction on Facebook	<ul style="list-style-type: none"> -What parts of your real identity do you reveal on the Facebook account that you use for marketing? - Why would you hide parts of your identity while marketing? - Do you have a separate Facebook profile that you use for marketing? - Do you think that using real identity on Facebook can lead to higher interaction and potential business opportunities? Why or why not? - In your opinion, what other factors could lead to higher interaction on Facebook groups business posts?

Appendix 6: Interviews Questions to group admins

Category	Questions
General questions about the group	<ul style="list-style-type: none"> - Why did you decide to create a mixed group / women-only group? And since when do you have this group? - Do you (or how do you) verify that members joining are women
Gender differences in posting behavior	<ul style="list-style-type: none"> -Do you believe there are differences between how men and women publish content for their businesses on Facebook based on your observations or experiences? If so, would you mind giving some examples? - What factors do you think might be behind these variations in posting behavior
Privacy and identity	<ul style="list-style-type: none"> - From your experience, do you think women are more likely than men to hide parts of their identities in online spaces, including Facebook? If yes, what parts of their identity do you think they are more likely to hide? - What reasons or motivations could contribute to this behavior, if any? - Some women consider private facebook groups as safe spaces, what do you think about this?
Interaction and engagement on posts	<ul style="list-style-type: none"> -Do you believe that men and women receive different interactions or engagements on their Facebook business-related posts based on your observations or experiences? If yes, could you elaborate on why you believe this could be the case? - [if yes] Why do you think men and women might tailor their content differently on Facebook, particularly when it comes to business-related content? - How do you think the level of interaction and engagement on Facebook business posts can impact potential business opportunities for men and women?