

# Insights into Networks of Potential and Emerging Tunisian Entrepreneurs: An Overview

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**Abstract**—Even though several years have passed since the Tunisian revolution, the country's economy is still suffering from the effects of this tumultuous period. In this context, the establishment of businesses emerges as a restorative solution to revitalize the national economy. This study focuses on the network of potential and emerging entrepreneurs in Tunisia, a field that has been the subject of numerous studies due to its potential impact on the national economy. By shedding light on these aspects, we seek to contribute to an understanding of how the characteristics of social networks influence the choices and decisions of future entrepreneurs.

**Keywords**— Potential entrepreneur, Emerging entrepreneur, Pre-startup Process, Intention, Gestation, Networks.

## I. INTRODUCTION

The network, which is formed by the set of relationships among actors (Mercklé, 2004), holds significant importance for the entrepreneur. This importance can be explained by the various resources obtained through the network that can facilitate business realization. Jenssen and Koenig (2002) identify three types of resources that can be exchanged in a network, namely: information, motivation, and material resources. The quality and importance of these resources vary from one network to another depending on the alters (different contacts that constitute an ego's network). Therefore, the entrepreneur can leverage their network to achieve specific objectives.

The social network is a social structure composed of nodes that are connected to each other through a set of links (Li, 2013). These links refer to various relationships and interactions (Arribas, Hernández, and Vila, 2013) among the actors. These relationships can be direct (personal network) or indirect, through chains of variable lengths. They encompass diverse forms of social interactions, ranging from monetary transactions, transfer of goods or services, information exchange, to various verbal or gestural interactions. Think of it as a dynamic ecosystem where individuals not only connect but also collectively engage in shared events (Mercklé, 2004).

According to Small (2013), researchers in the field of social networks propose that the network is comprised of alters (individuals who are members of the network) who are closest or most significant to the ego (the focal person who owns the network). The connectivity among them forms a variety of channels through which the social network operates, such as parents, family members, friends, or broader social groups in general (Liargovas and Skandalis, 2012). Within this social structure, network members share sentiments of gratitude, reciprocity, respect, and friendship among themselves (Huang, Nandialath, Alsayaghi, and Karadeniz, 2013).

In the literature, the dimensions of social networks are often explored to understand their effects in various contexts (Fernández-Pérez, Verdú-Jóver, and Benitez-Amado, 2013; Nybakk, Lunnan, Jenssen, and Crespell, 2013; Stam, Arzlanian, and Elfring, 2014). It's crucial to note that the number and naming of dimensions vary from one author to another based on their perspective and research goals. For instance, Rejeb, Mezghani, and Quélin (2008) identify four dimensions of the network: 1) network size, 2) network density, 3) link intensity, and 4) network scope. The first dimension represents the number of individuals with whom a leader maintains relationships, or the number of connections a person has in their network (Farshchi and Brown, 2011). The second dimension refers to how closely individuals are interconnected within a network. Density is considered high when everyone in the network knows each other. An intense link is one where the ego maintains a strong relationship with the alter; link intensity characterizes relationships with high emotional closeness and significant interaction frequency (Martinez and Aldrich, 2011). Cho, Hwang, and Lee (2012) define the strength of a link by intimacy; the stronger the link, the deeper the intimacy among network members. The fourth dimension encompasses various demographic, organizational, professional, technical, etc., characteristics that define the members of the network (alters).

The entrepreneurial aspirations and initiation activities of potential entrepreneurs can be impacted by the resources available within their networks. The accessibility of these resources can differ between networks, depending on the dimensions that characterize it. This topic will be further discussed in the subsequent section of this article.

This descriptive article aims to provide a detailed exploration of the various networks that potential and nascent entrepreneurs can access, highlighting the distinctive characteristics of our sample, as well as the structure of the network of potential and nascent entrepreneurs. This research will enable readers to better comprehend the dynamics of networks influencing the decision to undertake entrepreneurial endeavors, particularly in the post-revolutionary context.

## II. CONCEPTUALIZATION OF THE SOCIAL NETWORK

### *A. Resources Obtained Through the Network*

In existing literature, the entrepreneur's network is considered a source of opportunities that enables access to tangible and intangible resources (Abou-Moghli and Al-Kasasbeh, 2012). Referring to Jenssen and Koenig's (2002) research on the significance of the social network for accessing resources and the success of startups, these authors define three categories of resources that can be exchanged within a network: information, motivation, and material resources. This categorization appears to encompass the most relevant resources discussed in the literature (Jenssen and Koenig, 2002).

Access to the aforementioned resources varies from one network to another based on its defining dimensions. According to the literature review, several studies have emphasized the influence of network structure on resource access. According to Klyver and Schøtt (2011), individuals with a broad network of connections have better access to information and other resources compared to those with a narrower network. Therefore, network size is a crucial element, as each link connecting the ego to network members represents a channel of information (Fernández-Pérez, Verdú-Jóver, and Benitez-Amado, 2013). Having a broad network allows for the development of a comprehensive awareness of new opportunities and resources, leading to rapid changes in the competitive position of the business (Fernández-Pérez, Verdú-Jóver, and Benitez-Amado, 2013).

According to Zhu, Woo, Porter, and Brzezinski (2013), the size of the network can influence both the quantity and variety of resources, as well as the potential assistance available to the ego. Kjos, Worley, and Schommer (2013) suggest an inverse relationship between network size and density. In other words, as the number of alters in a network increases, the density decreases. This is because the likelihood of individuals in the same network knowing each other becomes low. Burt (1999) employs the concept of structural holes to denote the absence of links between alters. Structural holes emerge when network members differ in their beliefs, identities, and practices (Sozen, 2012). A network with low density is one filled with structural holes (Rosenblatt, 2011). Individuals with this type of network can access various types of information (Rosenblatt, 2011; Kontinen and Ojala, 2012), enabling them to identify new opportunities.

Burt's (1999) theory of structural holes challenges Colmenan's (1988) concept of a "closed" network. According to Colmenan's approach, having a high-density or "closed" network is beneficial for the ego because this type of network disseminates information more quickly than a low-density network (Sligo and Massey, 2007). Both theories spark extensive debates within the network literature (Hsu, Liu, and Huang, 2012).

Access to resources within a network can be influenced by the strength and weakness of the ties (the relational dimension) that constitute the network. The strength of ties depends on the composition of the social network; strong ties are typically formed by partners, close friends, and immediate family, while weak ties are often constituted by colleagues, neighbors, extended family, etc. (Kogovšek, Coenders, and Hlebec, 2013). According to Newbert, Tornikoski, and Quigley (2013), the strength of ties is an indicator of the quality of a relationship between two individuals. The results of theoretical and empirical studies show that both types of ties are advantageous for the entrepreneur and are necessary for their success (Newbert, Tornikoski, and Quigley, 2013); thus, strong ties and weak ties are complementary. The study conducted by Hampton, McGowan, and Cooper (2011) on the network quality of women entrepreneurs in Ireland reveals that female entrepreneurs are interested in combining both strong and weak ties in their networks to identify new opportunities and access scarce resources more effectively. Thus, the complementarity of these two types of ties becomes apparent through the resources they provide (see Table I). Indeed, knowledge and social support are better transferred through close relationships where trust circulates among its members (Nybakk, Lunnan, Jenssen, and Crespell, 2013). However, Granovetter's (1973) theory of "the strength of weak ties" emphasizes weak ties as generators of opportunities because the ego can

acquire new information through this type of connection. According to Fu, Ho, and Chen (2013), when the ego needs help or critical information, it turns to professional contacts with whom it maintains weak ties. The paradox arising here is that the ego obtains answers to its pressing questions from individuals who are not close to them; thus, the ego becomes close to people who are not close to them because they are well-informed on the questions posed and/or because they are available in their everyday life (Small, 2013).

TABLE I  
 ADVANTAGES AND DISADVANTAGES OF TWO TYPES OF CONNECTIONS

	Advantages	Disadvantages
<b>Strong Ties</b>	- Better access to resources (Chollet, 2006)	- Redundant information (Fernández-Pérez, Verdú-Jóver, and Benitez-Amado, 2013)
	- Good source of private information (Uzzi and Lancaster, 2003)	- Circulation of outdated information (Nybakk, Lunnan, Jenssen, and Crespell, 2013)
	- Provide emotional support and encouragement (Klyver and Schött, 2011)	
<b>Weak Ties</b>	- Diversified resources (Newbert, Tornikoski, and Quigley, 2013)	- Difficulty in assembling resources (Stam, Arzlanian, and Elfring, 2014)
	- Good source of public information (Uzzi and Lancaster, 2003)	- Difficulties in transmitting complex knowledge (Hansen, 1999)

Source: Author's Creation

*B. Types of Networks*

In general, a network is composed of other individuals (alters) with whom a person (ego) maintains a certain relationship (Requena, 2013). These alters are often close, intimate, and emotionally significant (Small, 2013). It should be noted that within each network, there exist several types of networks that differ in terms of nature, relationship, and the resulting resources. However, the various types of networks are not sufficiently addressed in the literature (Doeven-Eggens, Fruyt, Hendriks, Bosker, and Van der Werf, 2008). The network can be divided into informal relationship networks and formal relationship networks (Fernández-Pérez, Alonso-Galicia, Fuentes-Fuentes, and Rodríguez-Ariza, 2014).

The first type encompasses relationships with parents, friends, and colleagues with whom the ego maintains a friendly relationship; what these authors refer to as the "personal social network." This type of relationship is based on trust, shared values, and mutual feelings. In general, informal relationships are close and direct (Hampton, McGowan, and Cooper, 2011).

The second type of network includes clients, suppliers, competitors, etc.; these relationships are often more formal (Fernández-Pérez, Alonso-Galicia, Fuentes-Fuentes, and Rodríguez-Ariza, 2014), where the management of links is more controlled (Hampton, McGowan, and Cooper, 2011). According to Peltier and Naidu (2012), there are three types of social networks, which are: 1) the personal network, composed of family and friends; 2) the exchange network, composed of current and potential clients and suppliers; and 3) the communication network, composed of business consultants, financial consultants, non-competing businesses, and competing businesses.

Schött (2013) and Van Horne, Belkacem, and Al Fusail (2013) identify five components of the network, namely: 1) The first network is the private network, composed of the spouse, parents, other family members, and friends. 2) The second network is the work network, composed of colleagues, the boss, and business advisors. 3) The third network is the professional network, consisting of lawyers, accountants, bankers, investors, researchers, and advisors. 4) The fourth network is the market network, made up of collaborators, competitors, suppliers, and clients. 5) The fifth and final network is the international network, composed of individuals outside the national territory, including those abroad and foreign individuals (see Table II). This typology is also used in the research of Huang, Nandialath, Alsayaghi, and Karadeniz (2013) with the aim of identifying the effect of the entrepreneur's sociodemographic profile on these different advisory networks within the context of the Middle East and North Africa (MENA). In these five networks, information resources are acquired in the form of advice (Schött, 2010). As a significant portion of the personal network provides social support (Requena, 2013), the aforementioned five networks (the private network, the work network, the professional network, the market network, and the

entrepreneurial network) sequentially provide support or discouragement, experience, codified knowledge, information on business opportunities, and tacit knowledge about entrepreneurship (Schött, 2010). Huang, Nandialath, Alsayaghi, and Karadeniz (2013) emphasize the usefulness of information and other resources within the network for the formation and growth of new businesses. This is why the network is considered a key success factor (Klerk and Saayman, 2012).

TABLE II  
 ADVISORY NETWORKS

Components of the Network	Advisors
Private Sphere	Spouse
	Parents
	Other family members
	Friends
Work Sphere	Colleagues
	Boss
	Someone who has started a business Someone with extensive business experience
Professional Sphere	Banker
	Accountant
	Lawyer
	Researcher or Inventor
	Investor
Market Sphere	Public advisory service for business
	Competitors
	Suppliers
	Consumers
International Sphere	Collaborators
	Individuals abroad Individuals from abroad

Source: Schött (2013)

In this study, we will concentrate on the network topology outlined by Schött (2013) and Van Horne, Belkacem, and Al Fusail (2013). Our selection is driven by the fact that this topology has proved useful in various phases of business formation, ranging from intent to actual establishment (Schött, 2013; Van Horne, Belkacem, and Al Fusail, 2013). Moreover, it can be noted that this categorization covers every component of the network, offering a comprehensive understanding of this notion.

### III. PRE-STARTUP PROCESS

According to Wilken (1979) in Greve (1995), the entrepreneur, during the establishment of their business, goes through three phases:

1. In the first phase, the entrepreneur has an idea for their business and is motivated to start it. During this phase, the business idea is developed, and social support is sought through discussions with others. It's important to note that in this phase, the entrepreneur has not yet taken concrete steps to create the business.
2. In the second phase, the entrepreneur begins detailed planning of activities, including working on business financing, setting up commercial transactions, agreements, and more. This phase is characterized by administrative complexity related to the preparations preceding the startup of the business. Findings by Stel and Stunnenberg (2006) indicate that this administrative complexity can discourage entrepreneurs from starting their new businesses.
3. In the third phase, the business starts operating (Wilken, 1979 in Greve, 1995) (see Fig. 1).

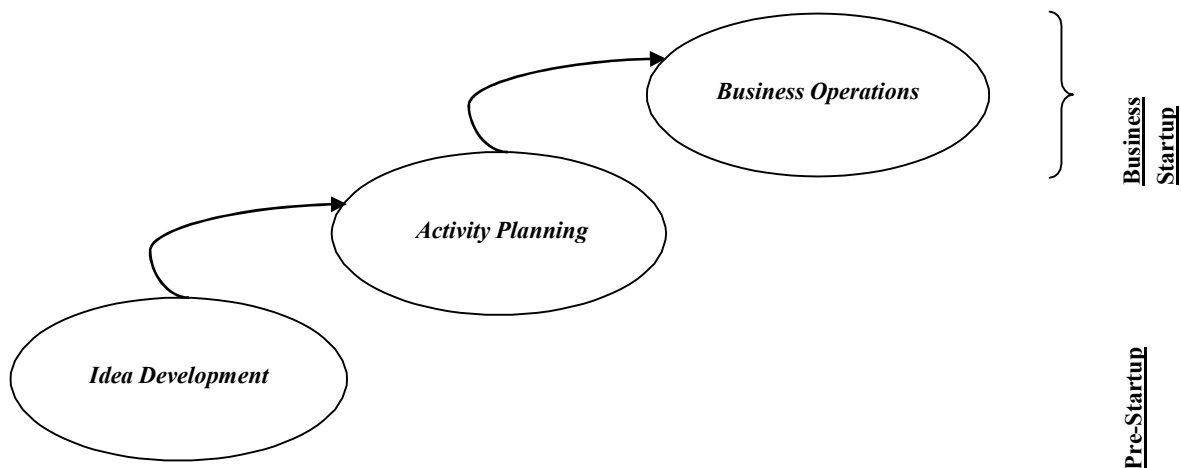


Fig. 1 The Three Phases of Business Creation

We can divide this schema into two parts: the pre-startup phase and the startup phase. In this research, we assume that the first and second phases (i.e., idea development and activity planning) constitute the pre-startup process, and the final phase (i.e., the operation of the business) reflects the actual startup of the business. Furthermore, we use the term "entrepreneurial intention" to refer to the first phase of the pre-startup process and the term "planning and commitment" to describe its second phase.

#### A. What is Entrepreneurial Intention?

Entrepreneurial intention is defined as an individual's intention to start a business (Pillis et al., 2007; Engle et al., 2010; Dinis et al., 2013). It is considered a precursor to entrepreneurial behavior (Guzmán-Alfonso et al., 2012). Atherton (2007) outlined several reasons why an individual may have the awareness or intention to start a business, including interactions with a family member, friend, or acquaintance who has already started a business; job loss, which, in turn, drives individuals to explore and seek alternative income-generating opportunities; dissatisfaction with current employment; identification of a business idea or opportunity; in essence, anything that serves as a foundation for exploring business creation.

The pre-startup phase is characterized by the existence of an idea or a business project. In other words, an opportunity has been identified by the individual in question. According to Trevelyan (2008), in the early stages of the new business development process, the entrepreneur engages in activities related to opportunity identification, such as building a network with colleagues at work and intensive reading. Moreno (2008) and Politis (2008) suggest that the identification and exploitation of business opportunities depend primarily on the entrepreneur's experience and level of education. These factors enable them to identify creative and innovative ideas. For example, Bonet, Armengot, and Galindo Martin (2011) support the close connection between creativity and education. Additionally, Jorge Moreno (2008) suggests that experience is associated with the identification of creative business opportunities.

The intention to start a business can reach its maximum level if the evaluation of the idea yields positive and encouraging results. The purpose of this evaluation is to determine the potential success of the idea or opportunity, and it must be done effectively (Trevelyan, 2008). According to this author, evaluation involves gathering and analyzing information to make a positive decision (i.e., committing to the business) or a negative decision (i.e., rejecting the business). At this stage, the individual can develop their idea in line with the information gathering and analysis. Once the person obtains positive results from the evaluation, they will move on to the second phase of the pre-startup process, referred to in our research as "planning and commitment" (see Fig. 2).

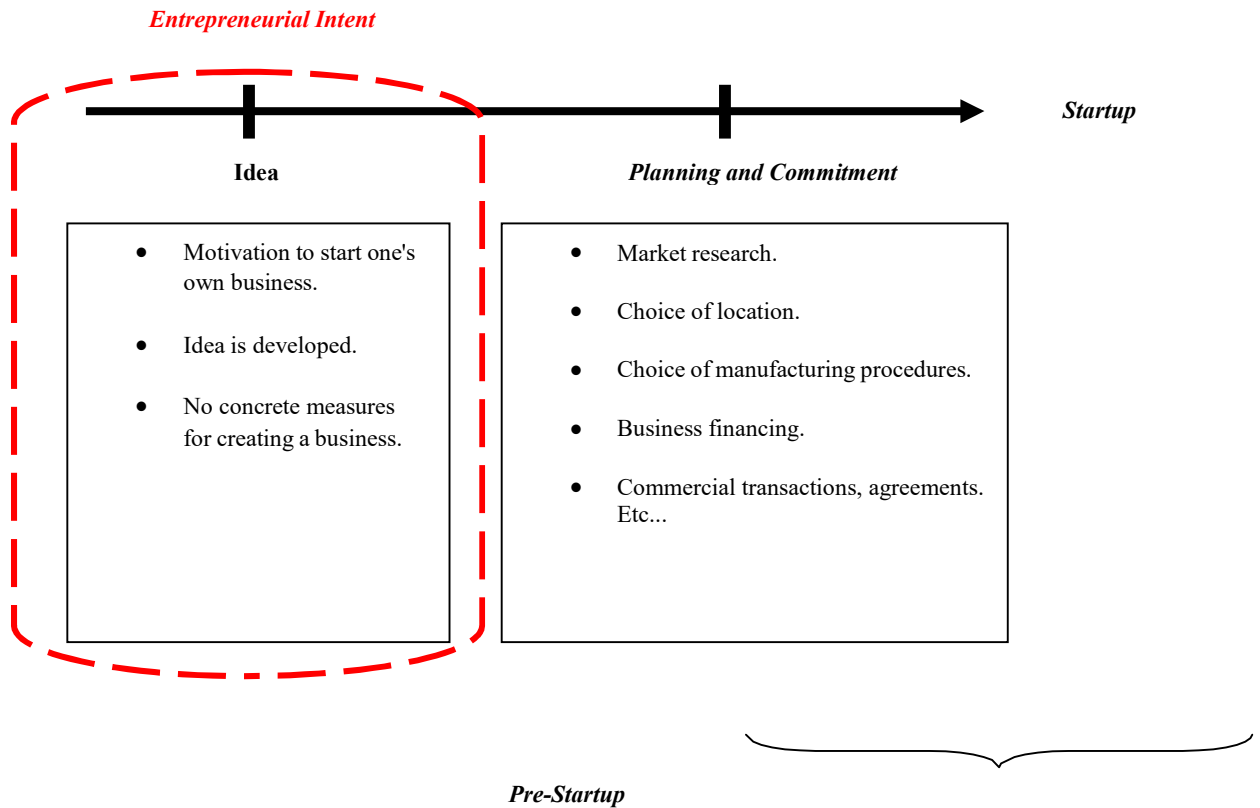


Fig. 2 Description of the Pre-Startup Process

*B. Planning and Commitment : Before the Actual Startup of a New Business*

The Gestation Period The gestation period of a business or the preparation phase precedes the actual engagement in the startup of a new business (Atherton, 2007). At this stage, the individual who intends to embark on entrepreneurship begins to dedicate time and resources to establish their new business (Wagner, 2007). During this transition (i.e., the shift from intention to engagement in activities to start a business), the individual is referred to as a nascent entrepreneur (Kessler and Frank, 2009; Wagner, 2007).

As previously mentioned, the gestation period involves a range of activities (Davidsson and Honig, 2003) through which the individual engages in preliminary thinking about the possible consequences and likely effects of their decision to start a business (Atherton, 2007). Previous research has not limited itself to a specific number of gestation activities; in other words, the list of activities varies from one study to another (e.g., Carter et al. (1996) listed 14 gestation activities; Brasseur, Zanibbi, and Zinger (2003) adapted 10 activities from Carter et al. (1996); Davidsson and Honig (2003) used 20 gestation activities; Liao et al. (2005) used 26 activities). Among these activities, one stands out as crucial for the success of business startup and its survival: the business plan (Campbell and Cook, 2010).

IV. THE GEM PROJECT

*A. General Overview*

The Global Entrepreneurship Monitor (GEM) is an international research program that focuses on entrepreneurial dynamics worldwide. This project was launched in 1999 as a partnership between London Business School in Europe and Babson College in the United States. The GEM database has continued to expand, with the number of participating countries increasing from 10 in 1999 to over 70 in 2013. Tunisia was first integrated into the GEM project in 2009 (GEM: The National Report 2010).

GEM is currently the world's largest research project on entrepreneurship, providing participating countries with numerous advantages in terms of comparative analysis. GEM's research informs various business communities, regional governments, and national governments annually about the level of entrepreneurial activity in their respective countries. It can also assist policymakers in effectively supporting entrepreneurship within their countries and formulating appropriate policies.

The source of data for this paper will be the Global Entrepreneurship Monitor (GEM) - Tunisia from 2012. The GEM dataset will be used in this research.

The GEM methodology aims to ensure reliable cross-country comparisons by using a harmonized research methodology across all participating countries. The annual data is collected and compiled from two distinct sources: an Adult Population Survey (APS) and a National Expert Survey (NES). These two components of the GEM survey are separate but complementary.

**The Adult Population Survey (APS)** is based on surveys conducted among adults aged between 18 and 64 years. Each participating country conducts a survey on a representative sample of the adult population, consisting of at least 2,000 adults randomly selected. The surveys are conducted at the same time of the year for all countries, using a standardized questionnaire provided by the GEM consortium.

**The National Expert Survey (NES)** is a crucial component of the GEM database, as it allows for a better understanding of the startup environment in each country. NES is administered to a minimum of 36 experts in each country. These experts possess in-depth knowledge of entrepreneurial activities and come from various professional backgrounds. Nine domains of expertise have been selected, including finance, policy, government programs, education and training, technology transfer, support infrastructure, and other broader areas related to society and culture.

The combination of data from the APS and NES provides a comprehensive view of entrepreneurship and the factors affecting it within each country, allowing for meaningful cross-country comparisons.

### *B. The Conceptual Model of GEM*

Entrepreneurship, as per GEM's conception, is a process that involves identifying, evaluating, and exploiting business opportunities. The exploitation of opportunities often leads to the creation of a new business (GEM: The National Report 2010). According to the GEM project, this process is subdivided into various phases (see Fig. 3). In general, the process of creating a new business involves two fundamental phases:

1. The first phase is the emergence phase, during which resources are assembled, the business concept is refined, and the team is formed.
2. The second phase is the startup phase, during which the new business begins to sell its products and services and establish its presence in the market.

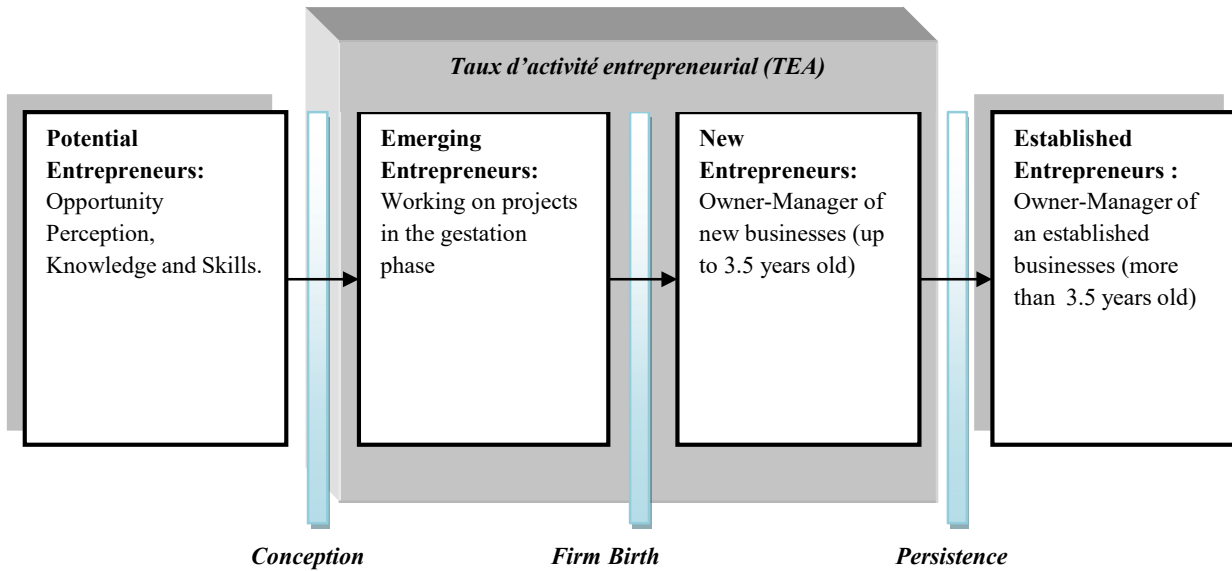


Fig. 3 The Entrepreneurial Process According to the GEM Model

Thus, the entrepreneurial process according to the GEM model is described by the following key variables:

- **Nascent Entrepreneurs:** These are individuals working on nascent business projects. They are potential entrepreneurs who are taking concrete actions toward creation, such as writing a business plan, seeking financing, looking for potential customers, etc.
- **New Business Owners:** These are the owners and managers of businesses that have paid salaries for less than three and a half years at the time of the survey.
- **Early-Stage Entrepreneurial Activity (TEA)** or the overall indicator of entrepreneurial activity, which is the sum of the nascent entrepreneur rate and the new business owner rate. TEA serves as an excellent indicator of entrepreneurial activity in the broader sense.
- **Established Business Owners:** These are the owners and managers of businesses that have paid salaries for more than three and a half years at the time of the survey. This category encompasses a wide range of entrepreneurs, from self-employed individuals to small and medium-sized business owners, including family business owners (GEM: The National Report 2010).

#### V. DESCRIPTIVE ANALYSIS OF SAMPLE ATTRIBUTES

In this section, we present a clear synthesis of statistics derived from the GEM database, highlighting the trends and characteristics of networks for future Tunisian entrepreneurs. This statistical overview provides an informative and structured insight, allowing for a quick and concise understanding of the emerging entrepreneurial landscape in Tunisia.



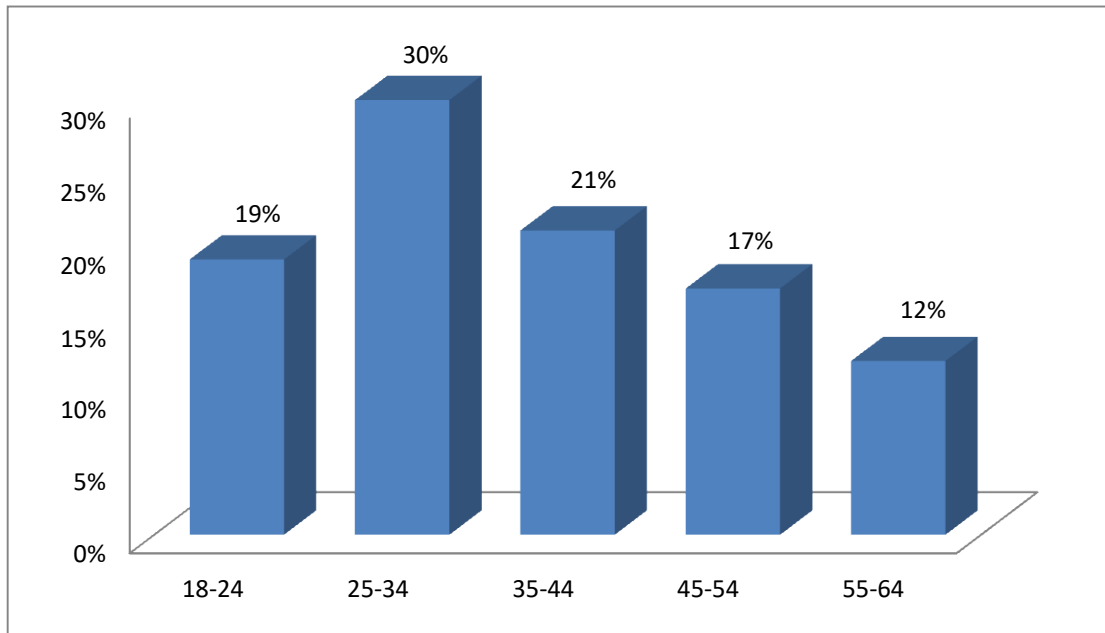


Fig. 4 Age Distribution of Sample Participants

The graph indicates that the presence of the age category of young individuals between 18-34 is quite significant. Nearly 50% of the sample participants fall within the 18-34 age range. The age group from 45 to 64 represents only 29% of the population. In general, the overall population is relatively young, with 70% of individuals being under 44 years of age.

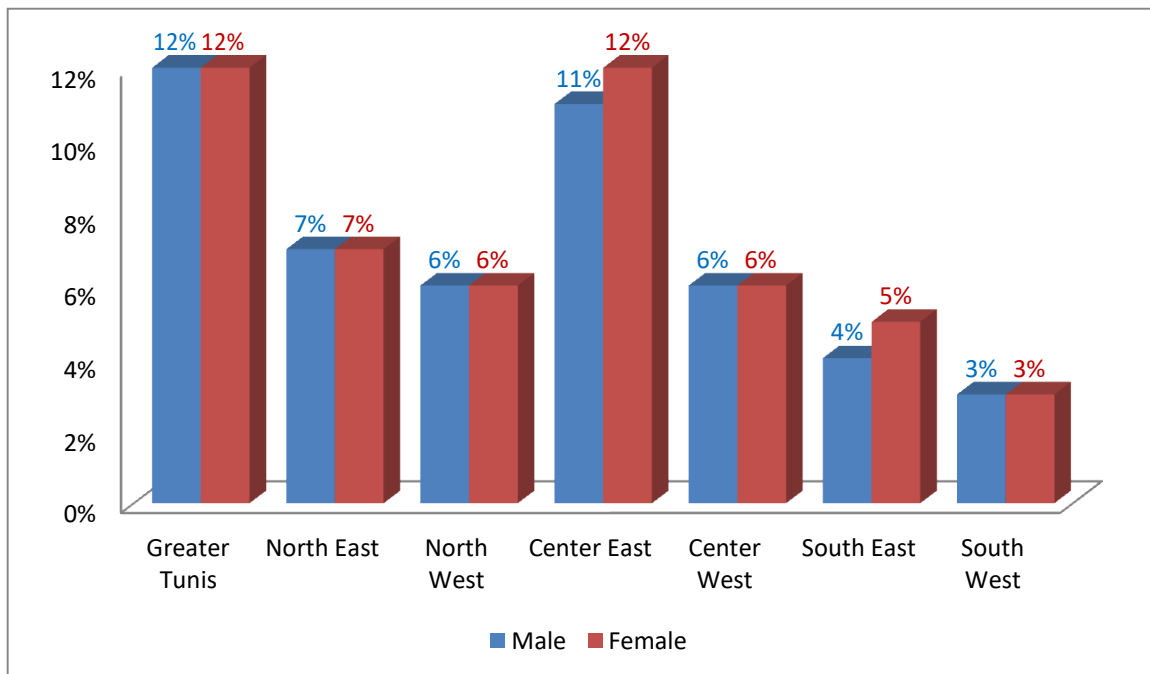


Fig. 5 Distribution of men and women in the sample by region

By examining the distribution of men and women across the seven regions of Tunisia, we can observe that the percentage of men and women is nearly the same in each region. In summary, the sample consists of 49% men and 51% women. We also notice a significant concentration of the population in the Greater Tunis and Central regions.

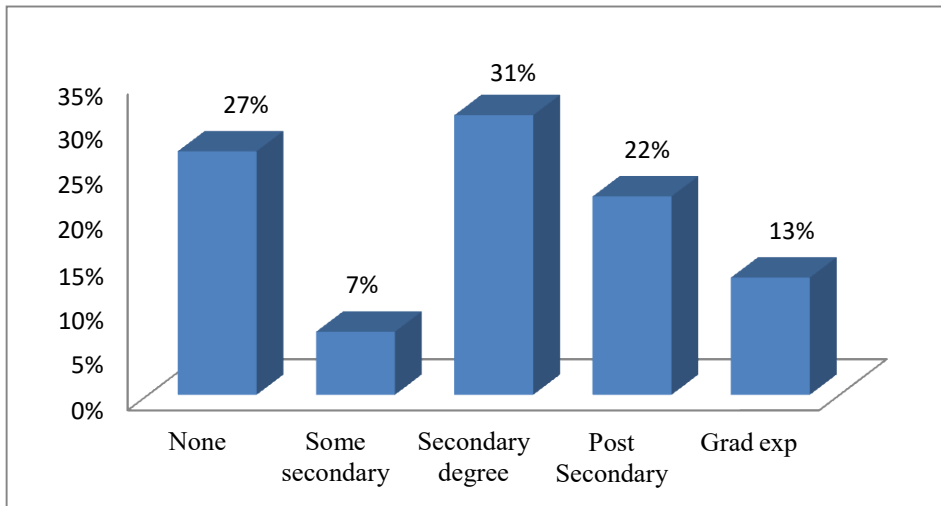


Fig. 6 Distribution of sample individuals by education level

The sample is composed of 31% individuals with a secondary education level, and 22% with a post-secondary education level (first and second university cycles). For those holding graduate or doctoral degrees, or who are engineers or doctoral candidates, the percentage rises to 13%. Finally, the percentage of individuals with a low level of education is 34%. We can conclude that the overall population is relatively well-educated, with a percentage reaching 66% (see Fig. 6).

*A. Composition of the Overall Sample*

TABLE III  
 COMPOSITION OF THE OVERALL SAMPLE

	<i>Headcount</i>	<i>Percentage</i>
<b>Potential Entrepreneurs</b>	347	17,4%
<b>Emerging Entrepreneurs</b>	38	1,9%
<b>New and Established Entrepreneurs</b>	192	9,7%
<b>Remaining Sample</b>	1423	71%
<b>Total</b>	<b>2000</b>	<b>100%</b>

Among the 2000 individuals from the adult population who were invited to participate in the GEM study and were interviewed, three subcategories of entrepreneurs were identified: potential entrepreneurs, numbering 347 individuals, representing 17.4% of the population. Nascent entrepreneurs, comprising 38 individuals, equivalent to 1.9% of the population. The last type of entrepreneurs is new and established entrepreneurs, with 192 individuals, accounting for 9.7% of the population. In this study, we will focus on the first two categories of entrepreneurs, namely potential entrepreneurs and nascent entrepreneurs, which represent the initial phase of the entrepreneurial process: the pre-startup phase.

*B. Percentages and frequencies of entrepreneurs' network attendance*

The following table represents the counts of potential, nascent, new, and established entrepreneurs who attend their private, work-related, professional, market, and international networks.

TABLE IV  
 COUNTS OF ENTREPRENEUR NETWORK ATTENDANCE

	private sphere	work sphere	professional sphere	market sphere	international sphere	Total
Potential Entrepreneurs	193	16	5	4	4	222/347
Emerging Entrepreneurs	18	0	1	2	0	21/38
New and Established Entrepreneurs	81	3	0	5	0	89/192
<b>Total</b>	<b>292</b>	<b>19</b>	<b>6</b>	<b>11</b>	<b>4</b>	<b>332/577</b>

According to the table, a relatively high number of potential entrepreneurs use their networks, with 222 out of 347 potential entrepreneurs consulting their networks to achieve their goals. However, it's also notable that 125 potential entrepreneurs do not consult their networks. For nascent entrepreneurs, 21 out of 38 consult their networks, and for new and established entrepreneurs, 89 out of 192 entrepreneurs use their networks. In summary, more than half of the entrepreneurs consult their networks to achieve their goals. This leads to the conclusion that the network plays a significant role in an entrepreneur's life by providing the necessary resources and support at all stages of entrepreneurship (Van Horne, Belkacem, and Al Fusail, 2013; GEM Tunisia, 2010). That's why the network remains a major topic of importance in entrepreneurship.

The following figure illustrates the percentage of entrepreneurs who consult their networks. According to the graph, almost 51% of entrepreneurs consult their private networks. The percentages associated with other types of networks are considered very low. This result can be explained by the fact that Tunisian entrepreneurs trust their private networks, which include family members, spouses, and friends, more than other networks (GEM Tunisia, 2010).

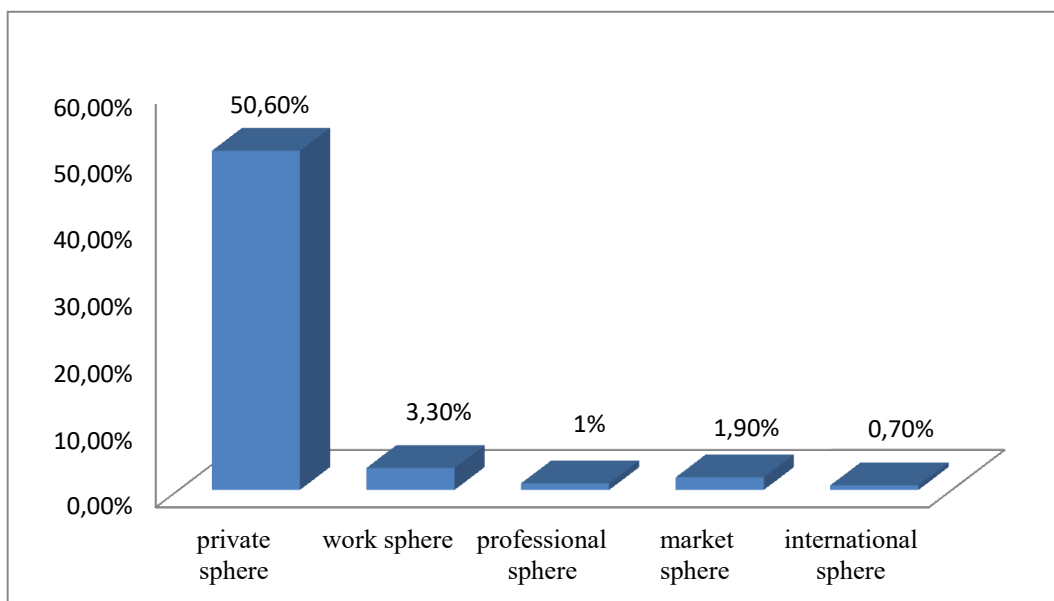


Fig. 7 Percentage of Entrepreneurs' Network Engagement

The figure below illustrates that the use of networks is particularly common during the pre-startup phase. The percentages are relatively high and even reach 100%. Indeed, 100% of the entrepreneurs who utilize their international networks are potential entrepreneurs. The same applies to the professional network, where 100% of the entrepreneurs who consult this type of network are potential entrepreneurs and nascent entrepreneurs. However, there are no new and/or established entrepreneurs consulting the professional network. This raises questions about the success of these new and established entrepreneurs in their businesses. In general, the majority of entrepreneurs who consult various types of networks are potential entrepreneurs and nascent entrepreneurs, indicating that they are in the pre-startup phase.

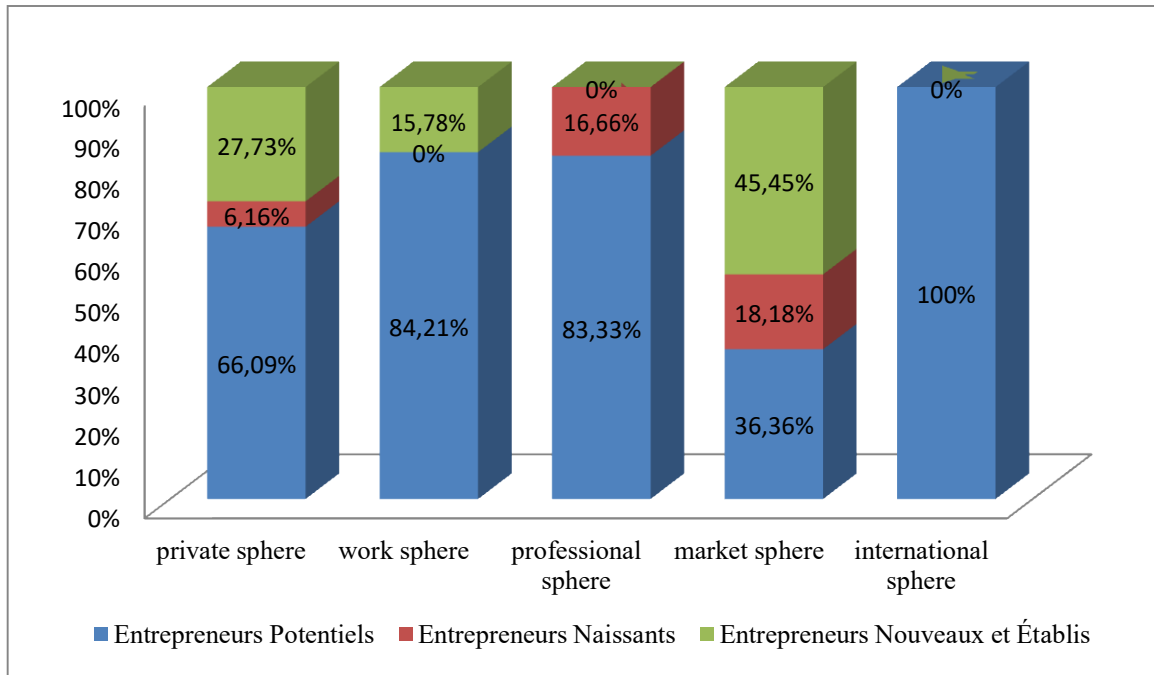


Fig. 8 Distribution of Entrepreneurs by Network Type

It is evident from Fig. 9 that women rely more on private networks compared to men. However, the percentage of network usage is slightly higher for men in the case of work and market networks. One possible explanation for this is that women tend to be more attached to their families and close ones, while men are more oriented towards individuals in the work and market spheres since they can assist with practical matters.

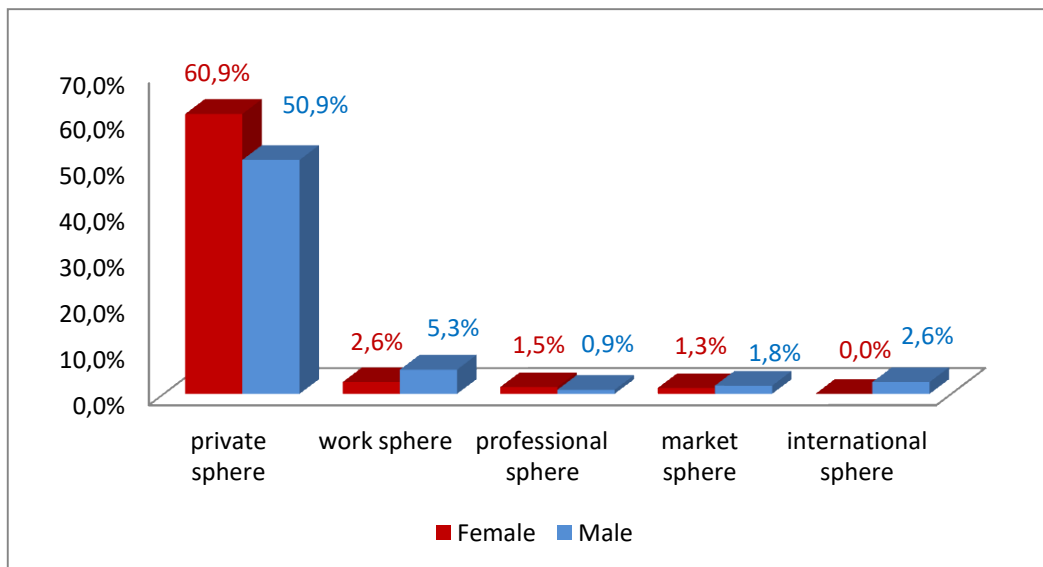


Fig. 9 Composition of Entrepreneurial Networks by Gender

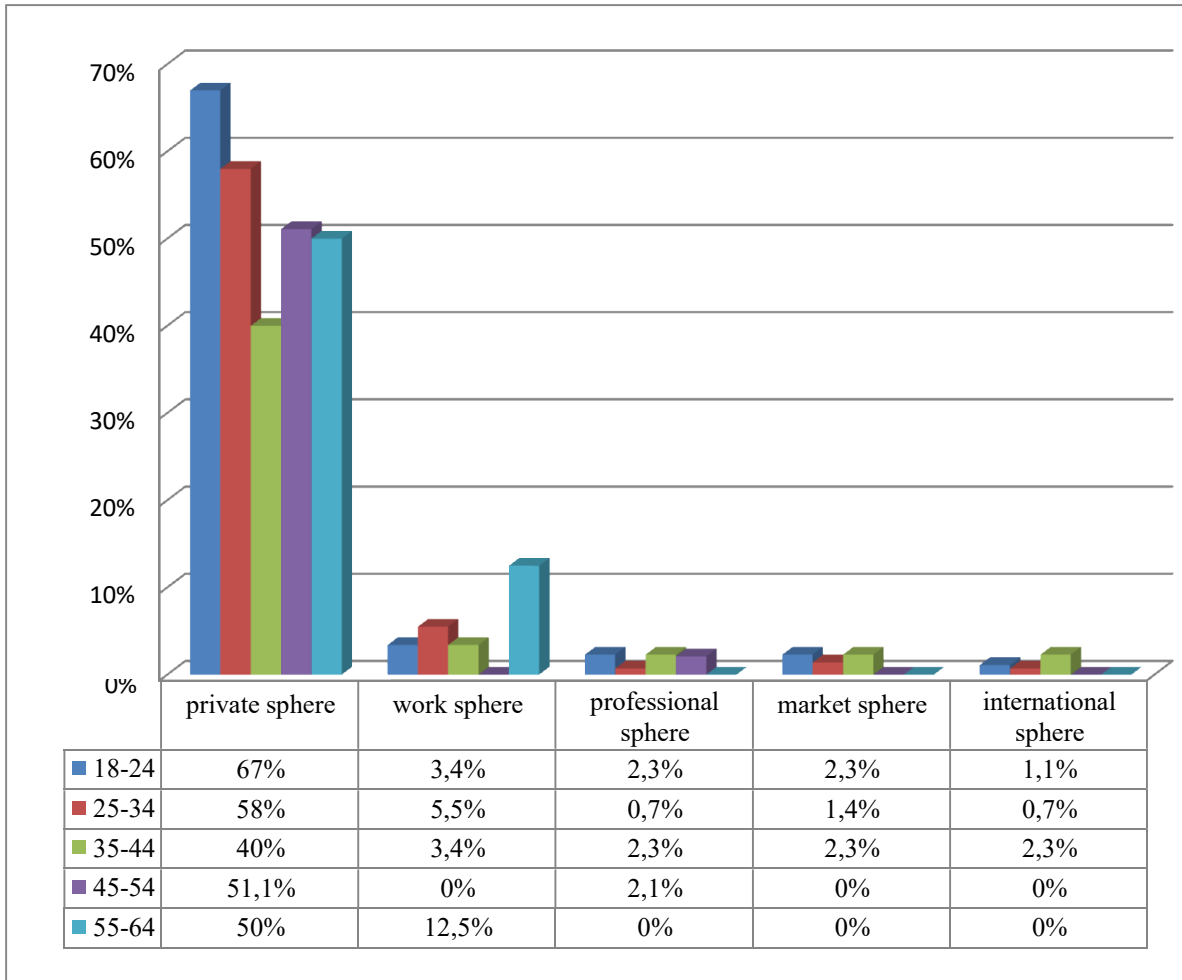


Fig. 10 Composition of Potential and Nascent Entrepreneurial Networks by Age

As allowed by the reading of the table above, we notice that a large majority of entrepreneurs aged between 18 and 24 consult their private networks (67%) in the early stages of creation. Attendance decreases for the age group between 35 and 44. These statistics seem natural as people between 18 and 24 are still very young to face such an experience, which is why they seek protection in their private spheres. However, people between 35 and 44 have more confidence and experience, which can explain this decrease in percentage.

As for the work network, we observe that the majority of respondents who consult this type of network are between 55 and 64 years old and between 25 and 34 years old. This can be explained by the fact that older individuals (between 55 and 64 years old) have had long careers and, as a result, have a large number of contacts in the work sphere. On the other hand, individuals between 25 and 34 years old are likely to use the work network when they start creating a new business because at this age, people finish their studies and begin working. So, they will try to connect with those who have experience in this field.

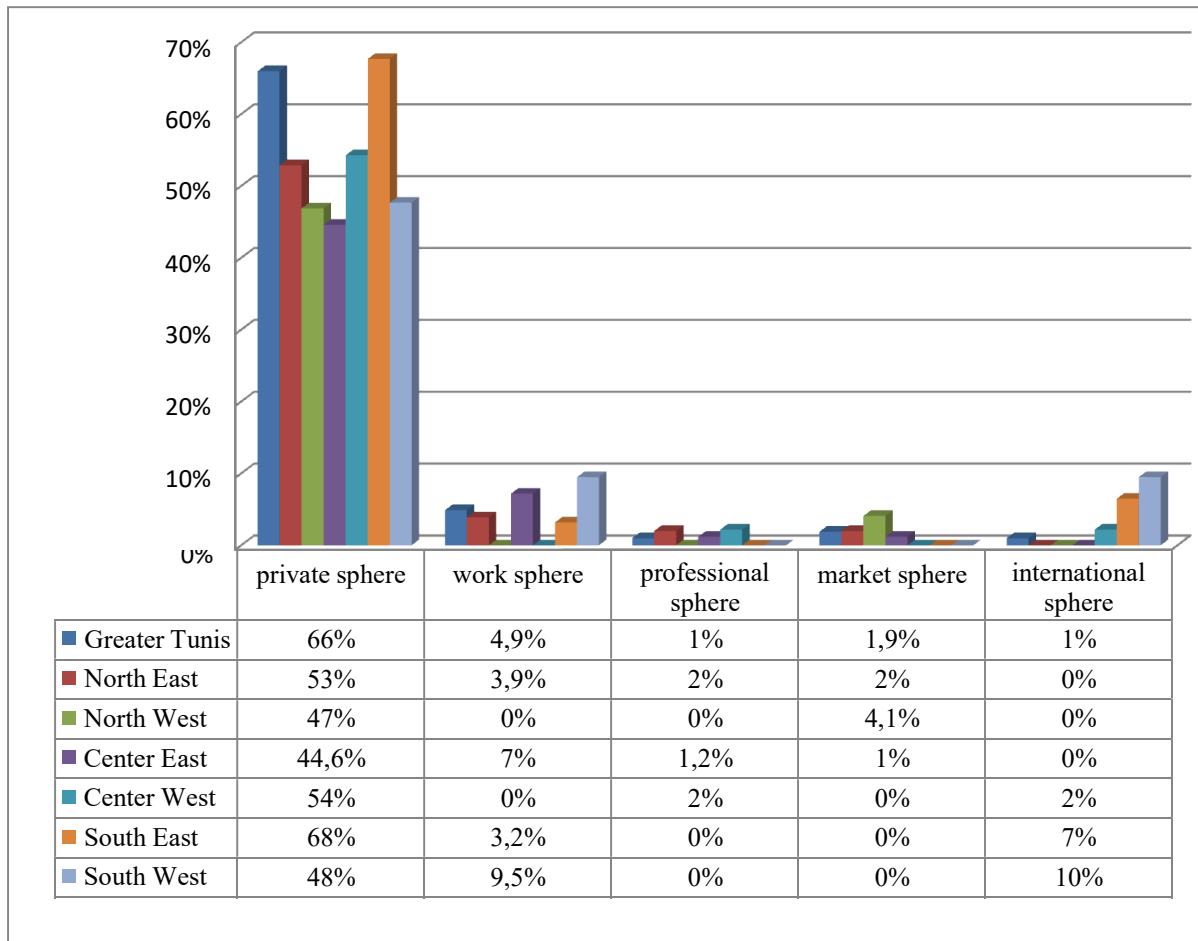


Fig.11 Network Utilization Percentage by Region

Those who most frequently use private networks come from the Southeast. These individuals are known for their collectivism and their strong family bonds. The percentage is also significant in the Greater Tunis area, owing to its human diversity, as it's known for a high concentration of people from various regions. They live in neighborhoods characterized by strong social cohesion among individuals.

## VI. CONCLUSION

Utilizing these networks is still quite restricted for prospective Tunisian entrepreneurs. Broadly speaking, the network of future Tunisian entrepreneurs lacks diversity, with most of them primarily focusing on their personal connections. This limited diversity leads to a scarcity of information, further intensifying the sense of uncertainty among these potential entrepreneurs. It's worth noting that this situation can significantly impact decision to pursue entrepreneurship.

The detailed analysis of the data highlights several key aspects of the entrepreneurial landscape in Tunisia, shedding light on significant trends and factors influencing entrepreneurs. Overall, the studied population is characterized by its youthfulness, with nearly 50% of participants falling within the 18-34 age range, suggesting a strong potential for innovation and dynamism in the entrepreneurial sector.

Gender parity in the sample is encouraging, indicating a balanced gender representation. However, the significant concentration of the population in the Greater Tunis and Central regions raises questions about the geographical distribution of entrepreneurial opportunities and requires specific attention in the planning of policies or initiatives.

On the educational front, the majority of the studied population is relatively well-educated, with 66% having achieved a high level of education. This educational characteristic can be a major asset for entrepreneurial development, suggesting a solid foundation for innovation and business creation.

The identification of different categories of entrepreneurs, focusing on potential and nascent entrepreneurs, provides interesting insights for the development of specific pre-startup phase support programs, emphasizing the crucial importance of this period in the entrepreneurial process.

The emphasis on the use of networks by entrepreneurs reveals the central importance of interpersonal relationships in the development of businesses in Tunisia. The strong reliance on private networks, in particular, underscores the significance of family and personal connections in the entrepreneurial fabric.

Gender and age differences in network usage add important nuances, highlighting cultural and social aspects that influence entrepreneurs' choices. For example, women tend to favor private networks, while the youth turn more towards these networks for protection, and older individuals rely on professional networks.

In summary, the study provides an in-depth view of the entrepreneurial demography in Tunisia, showcasing specific opportunities and challenges. These findings can guide policymakers, institutions, and entrepreneurs themselves in crafting policies, support programs, and strategies that take into account the unique characteristics of the Tunisian entrepreneurial context.

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