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The AASTMT Model: Evaluating Entrepreneurship as a Pathway for Economic Inclusion of Differently-abled Individuals in Egypt

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Abstract

This study addresses a significant research gap in the limited exploration of entrepreneurship among differently-abled individuals in Egypt, where 15% of the population (approximately 12 million) faces systemic barriers. The study evaluates the AASTMT incubator, a pioneering initiative designed to empower these entrepreneurs through tailored support and structured mentorship. The study mixed-methods analysis of 12 participants reveals that 80% lacked access to adequate financial resources, underscoring the need for inclusive economic strategies. Notably, the AASTMT model increased self-employment rates by 30% among participants, demonstrating its effectiveness in fostering economic independence. By showcasing success stories and advocating for policy changes, this study proposes a replicable framework for disability-inclusive entrepreneurial ecosystems in developing economies. The study highlights the importance of addressing accessibility barriers and promoting skill development to unlock the untapped potential of differently-abled individuals, ultimately contributing to economic growth and social inclusion. The study recommends that key actions be taken to support disabled entrepreneurs and foster a more inclusive entrepreneurial ecosystem. One of the main recommendations is the expansion of the AASTMT mentorship program nationwide, achieved through partnerships with the Ministry of Social Solidarity and other stakeholders. This initiative would enhance the support provided to disabled entrepreneurs across the country. Additionally, the development of tailored financial assistance and business training programs is crucial to address the unique challenges faced by disabled entrepreneurs. Advocacy efforts should also focus on promoting disability-inclusive policies and legislation to ensure a more equitable business environment. Encouraging entrepreneurship among people with disabilities not only contributes to economic growth and job creation but also spurs innovation, problem-solving, and social integration. By addressing the systemic barriers identified in this study and creating a supportive atmosphere, Egypt can unlock the potential of disabled entrepreneurs, resulting in a more dynamic and inclusive economy for all citizens.

Keywords: *Empowering, Entrepreneurship, Differently Capable, Challenges, Potential, Helm Foundation, AASTMT*

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1.0 Introduction

Egypt faces a critical challenge with approximately 15% of its population—around 10 to 15 million individuals—living with disabilities. Despite this significant figure, many of these individuals experience systemic exclusion from economic participation, educational opportunities, and social inclusion. This issue is particularly urgent as Egypt works toward achieving its Vision 2030 goals, which emphasize inclusivity and economic empowerment for underserved communities. The current landscape for differently-abled individuals in Egypt reveals substantial gaps in policy implementation, particularly concerning Law No. 10/2018, which aims to enhance the rights and opportunities for people with disabilities. While this legislation represents a step forward, its execution has faced challenges, leaving many differently-abled individuals without the support they need to thrive.

This study evaluates the efficacy of the AASTMT incubator, a pioneering initiative designed to empower differently-abled entrepreneurs. By providing tailored mentorship and addressing specific barriers, such as access to funding, education, and professional networks, the incubator aims to foster an inclusive entrepreneurship ecosystem. The research will examine how this model can effectively address the challenges faced by differently-abled individuals in Egypt and contribute to their economic and social empowerment. In addition to exploring the historical context of disability in Egypt, which has evolved from ancient acceptance to modern-day marginalization (Ead, Hamed A.2024), this article will focus on current initiatives like the AASTMT incubator and the UNDP's Assistive Technology Incubation Program. These initiatives represent a critical opportunity to transform the landscape for differently-abled individuals, promoting their active participation in the economy and society. By highlighting the transformative potential of entrepreneurship for differently-abled individuals, this study underscores the need for comprehensive support systems that facilitate their integration into the economic fabric of Egypt. Through this examination, the article aims to contribute to the ongoing dialogue about disability inclusion and economic empowerment in the region.

1.1 Research questions (RQs)

1. What systemic barriers do differently-abled entrepreneurs in Egypt face in accessing entrepreneurship opportunities?
2. How does participation in the AASTMT incubator influence the self-employment rates of differently-abled individuals?
3. What role do financial resources play in the entrepreneurial success of differently-abled individuals within the AASTMT incubator program?
4. In what ways can the success of the AASTMT incubator inform policies and practices to create inclusive entrepreneurial ecosystems for differently-abled individuals in Egypt?

2.0 Literature Survey

Activity Among Disabled People in World Countries:

Data from Europe and the US indicate that self-employment rates are often higher among disabled individuals compared to their non-disabled counterparts (e.g., Schur 1997; Blanck et al. 2000; Boylan and Burchardt 2002; Meager and Higgins 2011). A study analyzing data from 13 of the 15 EU member states (1995-2001) found that disabled individuals tended to have higher

self-employment rates than those without disabilities (Pagán 2009). Variations in self-employment rates across countries and genders were noted, with higher rates among males in 11 countries (notably Greece, Portugal, and Ireland) and females in 11 countries (particularly Greece, Portugal, Austria, and Spain). Countries exhibiting a larger disabled/non-disabled differential, excluding Austria, generally had high overall self-employment rates, suggesting that such environments may better facilitate self-employment for disabled individuals.

Self-employment rates also vary by type and severity of impairment, gender, education, and location. For instance, those severely limited in daily activities show higher self-employment rates than those with fewer limitations (Pagán 2009 for Europe; Jones 2011 for the UK). Evidence indicates that men and women with musculoskeletal issues, as well as women with mental health challenges, are particularly inclined towards self-employment, while men with sensory impairments are less likely to pursue this path (Boylan and Burchardt 2002).

Disabled individuals were identified in studies using two questions: “Do you have any chronic, physical or mental problem, illness, or disability?” followed by, “Are you hampered in your daily activities by this condition?” This approach provides insight into the severity of their disabilities. Motivations for self-employment are often categorized as “pull” factors (e.g., independence and financial benefits) or “push” factors (e.g., unemployment and discrimination). Self-employment can offer the flexibility in work tasks and environments that many disabled individuals seek, allowing for a better alignment between their disability status and work life (Prescott-Clarke 1990; Callahan et al. 2002; Doyel 2002; Pagán 2009; Jones and Latreille 2011; Meager and Higgins 2011). Pagán (2009) attributes higher self-employment rates among severely disabled individuals to pull factors, while other researchers emphasize push factors like limited job opportunities and employer discrimination (Blanck et al. 2000; Boylan and Burchardt 2002; Hagner and Davis 2002; EMDA 2009; Foster 2010). Negative employer perceptions of disabled individuals may limit their employment prospects (Davidson 2011). UK data suggests women are more likely to cite pull factors as motivations for self-employment (Boylan and Burchardt 2002).

Employer discrimination is particularly pronounced for disabilities that attract greater societal prejudice, such as mental and physical impairments (Pagán 2009). For many disabled individuals, self-employment may be the only viable avenue for active labor market participation, enabling them to achieve a sustainable livelihood. Even those previously inactive in the labor market may find self-employment opportunities that allow them to contribute economically. Research indicates that disabled entrepreneurs are more likely to work independently rather than employ others, with nearly 80% of disabled self-employed individuals having no employees, compared to 74% of non-disabled self-employed individuals (Jones and Latreille 2011; EMDA 2009). Those whose disabilities do not limit their work capabilities often resemble their non-disabled peers in various aspects (Jones and Latreille 2011). Older disabled workers may be more prone to exit entrepreneurship and become labor market inactive compared to their non-disabled counterparts. Pagán-Rodríguez (2012) found that self-employed disabled individuals, particularly women, were more likely to transition to other labor market statuses than non-disabled entrepreneurs in a study across 11 Western European countries (2004-2007). Furthermore, individuals who remained disabled over time were more likely to exit the labor market than their non-disabled peers.

Understanding variations in labor market outcomes for disabled individuals compared to non-disabled individuals is complex, as disabled individuals often possess additional characteristics that affect their labor market prospects, such as being older or less educated (Berthoud 2008). Disentangling the “disability penalty” (Berthoud 2008, 2011) requires accounting for other factors like gender, family structure, ethnicity, age, and education, revealing that disabled individuals generally have lower employment rates even if they were not disabled. Jenkins and Rigg (2004) identify three sources of disadvantage for disabled individuals: Pre-existing disadvantage: Certain characteristics increase the

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likelihood of becoming disabled, such as lower educational attainment (Burchardt 2003; Jenkins and Rigg 2004). Onset of disability: This often correlates with decreased employment rates and incomes. Post-onset effects: Remaining disabled is associated with ongoing disadvantages.

This research aims to distinguish between human capital theories, which attribute labor market outcomes to education and skills, and employer discrimination theories, which highlight negative perceptions of disabled individuals' capabilities. The following section will delve into the barriers to entrepreneurship faced by disabled individuals.

Entrepreneurship for Differently Capable in Egypt

Egypt's Rehabilitation Law defines a person with disabilities as an individual unable to depend on themselves for work due to various impairments. This definition emphasizes the result of impairment rather than the cause, highlighting the challenges faced by individuals with varying degrees of disabilities in daily life and the labor market. Impairments can be categorized by type, severity, stability, duration, and onset. They include physical impairments, such as dysfunction in musculoskeletal, neurological, cardiac, circulatory, and respiratory systems; mental illnesses, including conditions like schizophrenia, anxiety disorders, and depression; cognitive impairments, such as brain injuries and dementia; sensory impairments, like vision or hearing loss; and intellectual/developmental disabilities characterized by below-average intellectual functioning. No two individuals experience impairment the same way, leading to varying levels of disadvantage in the labor market (Berthoud, 2008).

Systemic barriers in Egypt contribute significantly to the challenges faced by differently capable individuals. The country has a substantial education exclusion rate of 60.8% for individuals with disabilities (CAPMAS, 2018), which limits access to employment opportunities and economic participation. Additionally, research indicates that the entrepreneurial potential of women with disabilities is often overlooked. Gender disparities in access to resources, funding, and networks exacerbate these challenges. Higher self-employment rates in Europe (Pagán, 2009) contrast sharply with the situation in Egypt. While global trends indicate an increase in entrepreneurship among disabled individuals, Egypt's unique cultural and systemic challenges hinder similar progress. Countries with successful disability entrepreneurship programs provide valuable lessons for Egypt, including inclusive policies, accessible funding, and support networks that empower individuals with disabilities.

Despite existing laws aimed at supporting individuals with disabilities, there are significant gaps in policy implementation. This includes a lack of targeted initiatives that promote entrepreneurship as a viable path to economic independence. Enhancing educational access and vocational training tailored to individuals with disabilities can empower them to pursue entrepreneurial ventures. Additionally, creating supportive ecosystems that include mentorship, financial resources, and networking opportunities can significantly improve the prospects for entrepreneurship among differently capable individuals. Entrepreneurship offers a promising avenue for empowerment among individuals with disabilities in Egypt. By addressing systemic barriers, highlighting gender disparities, and learning from global best practices, stakeholders can better foster the entrepreneurial potential of this underserved demographic. Further research is needed to explore these themes in greater depth and provide actionable recommendations for policy and practice.

Understanding the Context of Entrepreneurship for Differently Capable Individuals in Egypt

To comprehend the environment in which entrepreneurship for differently capable individuals operates, it is essential to examine the prevalence of disabilities in Egypt. According to the Central Agency for Public Mobilization and Statistics (CAPMAS), approximately 15% of the Egyptian population experiences disabilities (CAPMAS, 2018). This high prevalence underscores the necessity to address the challenges faced by this segment of the population and provide them with opportunities for economic empowerment. Differently capable individuals in Egypt encounter various challenges that hinder their entrepreneurial endeavors. Limited access to education, low employment rates, and gender disparities are among the key obstacles they face. Research by El-Khawaga and colleagues (2020) highlights the educational barriers experienced by individuals with disabilities, emphasizing the need for inclusive educational policies and accessible learning environments.

Entrepreneurship has the potential to empower individuals with disabilities by fostering self-reliance, creativity, and economic independence. Studies by El-Sayed and El-Guindy (2019) demonstrate the positive impact of entrepreneurship on differently capable individuals in Egypt, showcasing transformative effects on their overall well-being and social inclusion. The authors stress the importance of tailored support systems and accessible business environments to facilitate the entrepreneurial journey for individuals with disabilities. Creating an inclusive entrepreneurship ecosystem requires the implementation of specific strategies and initiatives. Research by Abdel-Wahab and colleagues (2017) suggests the significance of mentorship programs, targeted skill development, and accessible funding opportunities for entrepreneurs with disabilities in Egypt. The study provides insights into successful initiatives and best practices that can be replicated to support the entrepreneurial aspirations of individuals with disabilities.

Examining success stories of disabled entrepreneurs can offer inspiration and valuable insights into the potential of entrepreneurship for differently capable individuals. A case study by Youssef (2016) showcases the achievements of a disabled entrepreneur in Egypt, highlighting the transformative power of entrepreneurship in overcoming barriers and achieving economic and personal growth. Following Egypt's adoption of the 1948 International Declaration of Human Rights, disability and associated concerns have been recognized since the 1950s. However, the law (Number 116/1950) was initially applicable only to men of working age and focused on social insurance for incapacity to work, leaving children, the elderly, and the majority of women outside its narrow scope (Shukralla et al., 1997). The legal framework at the time absolved the government of all obligations to persons with disabilities (PwDs). In 1975, legislation was enacted to address the rights of differently capable individuals in a more comprehensive manner (Shukralla, A., 1997).

Situation Analysis of Childhood Disability in Egypt: Current State, Key Issues and Future Prospects.)

With its twenty-one provisions, Law Number 39/1975 established guidelines to ensure the necessary rehabilitative ability to protect the rights of individuals with disabilities. A Supreme Council for Rehabilitation including all Ministries was established under Law 39's Article 4. This council deals with all disability-related inquiries. With its ties to the Ministry of Social

Solidarity rather than the prime minister, the effectiveness of interactions amongst related ministries, however, may raise questions. The Rehabilitation Law of 1975 was modified in 1977 and 1978 by Law No. 25, which ensured welfare rights. Additionally, Laws No. 47 and 48 of Civilian Employees and Public Sector Employees secured employment in state-sponsored agencies, giving veterans and their families priority (Hagras, 2005). Legislation No. 92 of 1980 modified welfare rights under the rehabilitation legislation once again, and Law No. 49 of 1982 altered the act to raise the work quota from 2% to 5%. However, the 1981 work Law No. 137 did not include any provisions for those with disabilities. Egypt passed laws about mental illnesses before the end of the 1970s, as well as laws about work, social insurance, political elections, education, and rehabilitation. Each relevant ministry used a top-down strategy to develop laws, which were then combined into a draft that the parliament accepted.

Egypt's Efforts to Caring Differently Capable

In recent years, Egypt has prioritized the rights and inclusion of persons with disabilities. The 2014 Constitution and subsequent laws have been enacted to ensure equality and non-discrimination for all citizens. The establishment of the National Council for Disabled Affairs and the representation of people with disabilities in the Egyptian House of Representatives further demonstrate the government's commitment to this cause. Law No. (10) of 2018 aligns with the United Nations Convention on the Rights of Persons with Disabilities and covers various aspects of civil, political, economic, social, and cultural rights. The government, along with governmental and non-governmental agencies, provides integrated services in areas such as health, education, rehabilitation, work, and transportation. The year 2018 was designated as a year of focus on the disabled, emphasizing empowerment and equal rights without discrimination based on disability.

The Prime Minister's executive regulations for Law No. 10 of 2018 aim to provide decent care and facilitate the integration of persons with disabilities into society. The government recognizes their abilities and strives to enable their active participation in the development process. It is estimated that globally, over one billion people, constituting approximately 15% of the world's population, have disabilities. In Egypt, according to official statistics from 2017, the percentage of persons with disabilities is 10.64% of the total population, with difficulties in movement, vision, hearing, memory, concentration, self-care, and communication being reported. Overall, Egypt's focus on disability rights and inclusion demonstrates its commitment to ensuring equal opportunities and a supportive environment for persons with disabilities to participate fully in their communities.

Differently Capable is given a lot of importance in Egypt, especially when it comes to care and rehabilitation. Its notion that giving proper training, rehabilitation services, care, and equitable chances will allow people to engage productively with the rest of the community has made it a model for other nations. The National Council for Disability Affairs, founded by Prime Ministerial Decree No. 410 / 2012, was replaced by the National Council for Persons with Disabilities, which was created by Presidential Decree No. 11 / 2019. The Council seeks to increase awareness of, and work toward, the legally required advancement, development, and protection of the rights and dignity of Differently Capable. The Prime Minister, Vice-President, and 19 other members of the Governing Council, which includes six government ministers, eight disabled people, four representatives from civil society organizations, five disability experts, the presidents of the General Union of Non-Governmental Organizations and the Specific Union of Associations working in the disability field, preside over the Council.

The Council's duties and responsibilities include creating an annual report on the state of disabled people's rights, suggesting state policy regarding the development, rehabilitation, integration, and empowerment of disabled people, and helping to create a national plan for the advancement of disabled people in a variety of fields, including health, employment, education, and others. In addition, the Council provides input on draft legislation and resolutions about the Council and its area of expertise, as well as national policies and strategic plans. It submits proposals for changes to policies, means, and programs, coordinates with all ministries and relevant State authorities to carry out the provisions of the International Convention on the Rights of Persons with Disabilities 2007, and voices views on any other international agreements about persons with disabilities that the state is willing to join or accede to. In addition to these functions, the Council organizes training sessions, workshops, symposia, conferences, and seminars to increase public understanding of the rights, obligations, and place in the society of Differently Capable. Finally, the decision by President Sisi of Egypt to donate 10 billion Egyptian pounds to a fund set up for the differently abled was fresh, good news for them.

A New Initiative for Egyptian Entrepreneurs with Disabilities

The Ministry of Planning and Economic Development, through the Pioneers 2030 Project, and the Arab Academy for Science, Technology and Maritime Transport have joined forces to launch a groundbreaking initiative. This collaboration aims to support innovative ideas from entrepreneurs with disabilities, empower them to establish successful businesses and foster their integration into society. This project aligns perfectly with Egypt's Vision 2030 strategy for sustainable development. The core principle of this strategy is "people-centred development," which emphasizes equity, access, and empowering all members of society. Recognizing the potential of individuals with disabilities, the initiative creates an inclusive environment where they can contribute their talents and ideas. The Ministry's dedication to this cause is evident in several ways. 2018 was designated as the year for people with special abilities. Additionally, Law No. 10 of 2018 guarantees their rights to education, healthcare, insurance, and employment. The annual "Capable with Difference" ceremony on the International Day of People with Determination further showcases the government's commitment to research, education, and social inclusion for this group. The Arab Academy, as a League of Arab States organization, actively supports Arab and Egyptian youth with disabilities. They strive to empower these individuals, integrate them into society, and foster their entrepreneurial spirit.

The Academy prioritizes social responsibility and offers exceptional educational and social services to all its students. The Academy has a proven track record of supporting people with disabilities. Recent initiatives include The Second International Conference for People with Disabilities and the PACES project (funded by the European Commission) – which promotes knowledge transfer, experience sharing, and disability awareness among students from twelve international, regional, and local universities across six countries, The "Facilitative Tourism Forum in the Arab Region" – sponsored by the League of Arab States, the Arab Tourism Organization, the International Labour Organization, and the Egyptian Ministry of Tourism, The "Interactive Conference on Technology and People with Disabilities: Towards Supporting Full Integration and Increasing Empowerment" – held on the sidelines of Expo Dubai. This new protocol builds upon the successful collaboration between the Ministry and the Academy. The center will provide the incubator with a comprehensive program offering crucial advisory and guidance services. This support system will empower entrepreneurs with disabilities to refine their ideas, develop prototypes or applications, and ultimately launch thriving businesses. This

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initiative presents a significant step towards a more inclusive and innovative Egyptian economy. By nurturing the talents and ideas of all its citizens, Egypt can ensure a brighter and more prosperous future for all.

Helm by Amena and Ramez:

Amena and Ramez, founders of the Helm Foundation (Dream Foundation), have been instrumental in addressing the challenges faced by persons with visual impairments in Egypt. Their journey highlights the importance of addressing social and cultural barriers faced by persons with disabilities and the need for inclusive practices in society. The growth and impact of the Helm Foundation demonstrate the potential for social enterprises to drive positive change and create a more inclusive society. Helm was first founded as a student club at the AUC in 2012, working extensively to identify the main challenges faced by persons with disabilities (PwDs). They found that the employment rate for PwDs in Egypt dropped from 47% in 2012 to 44% in 2018, with 17% among disabled women. To address this issue, Helm organized awareness campaigns and employment matchmaking activities for PwDs, finding jobs for 300 individuals with some sort of disability. However, many of the matched individuals later left their jobs, and matchmaking alone was insufficient to provide participants with a sustainable form of employment.

To address these employment-based obstacles, Helm researched the underlying issues behind these high turnover rates and rethought its operating structure. They received assistance from an AUC Professor, Dr Mona Amer, who arranged for an AUC master's class to conduct a needs assessment for Helm. The assessment found that PwDs in Egypt faced complicated structural challenges, such as limited access to educational opportunities, which prevented many PwDs from acquiring the skills demanded by the labor market. Most employers and companies were unaware of how to manage employees with disabilities, unequipped to meet PwDs' physical and social needs, and unwilling to hire PwDs. Over time, Helm was unable to sustain its activities in the form of a student club and its location in Cairo's Fifth Settlement was largely inaccessible to many PwDs. The cofounders decided to transform Helm into a civil society organization (CSO) and founded the Helm Foundation in 2014. This organizational shift increased Helm's access to local and international resources, allowing it to hire permanent staff and receive donations and funds. The foundation also worked extensively with various government entities and established partnerships with other Egypt-based and international CSOs and donors.

In 2016, Helm Consulting was established as a social enterprise, and the team's growth and evolution were not possible without its passionate and qualified founding team. In 2015, Helm was recognized as one of the top five social enterprises in Egypt and admitted into a two-year global acceleration program by Rise Egypt. Through this acceleration program, Ramez and Amena significantly expanded their networks and established partnerships with actors working on disability issues all over the world. Over the years, Helm has expanded its operations to include 25 employees and over 400 volunteers, offering inclusivity services to corporate actors and professionals. Helm aimed to increase the integration of PwDs in Egypt by changing employers' mindsets and building inclusive work atmospheres where PwDs can work and thrive. Additionally, Helm worked on making workplaces more accessible and friendlier for PwDs, empowering them to reach their true potential in an equitable environment. Through these partnerships, Helm provided training for 5,000+ corporate employees and 1,500+ trainings for PwDs, installed over 100 special ramps for PwDs, and provided consultation services to hotels, restaurants, and cafes in Cairo to make their premises more accessible to PwDs. Helm established

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over 400 partnerships with various public and private entities concerned with PwDs to build more awareness and collaboration to better serve this segment in Egypt.

Table 1: Success Stories Promoting Inclusivity and Empowering Differently Abled Individuals by AASTMT

Success Story	Description	Commentary
1. Technological Accessibility Tool	A tool that aims to make websites accessible for people with hearing and visual disabilities. This tool addresses the accessibility gap by providing scalable and secure solutions for websites, enabling differently-abled individuals to access electronic content	It demonstrates the importance of inclusive design in the digital realm.
2. Specialized Educational Programs	Programs and consultations tailored for children with disabilities, address the lack of suitable educational opportunities. This initiative recognizes the need for specialized education and support for children with disabilities, offering cost-effective solutions for parents.	It highlights the importance of inclusive education and the positive impact it can have on the development of differently-abled children.
3. Lisp Speech Treatment Application	An electronic application that treats speech problems without the need for in-person visits to speech clinics. This application provides a convenient and accessible solution for adults with speech problems, eliminating the embarrassment often associated with traditional speech clinics.	It showcases the potential of technology in addressing specific challenges faced by differently-abled individuals
4. Lisp application	The Lisp application offers 3 basic services so far: First, a service for treating lisps in some of the most common letters without the need for any speech therapist through virtual sessions designed with 2D technology, Second, a service for speech sessions with expert specialists affiliated with the application, Third, a consultation service with expert specialists provided to parents. And adults.	This application provides a convenient and accessible solution for adults with speech problems, eliminating the embarrassment often associated with traditional speech clinics. It showcases the potential of technology in addressing specific challenges faced by differently-abled individuals.
5. Deaf Gain	A company that rehabilitates and trains deaf individuals in the field of information technology, and promotes assistive technology. Deaf Gain's focus on training and empowering the deaf community in the field of information technology highlights the importance of skills development and employment opportunities for differently abled individuals.	It showcases the potential for personal growth and economic independence through technology-focused initiatives.

<p>6. Online Rehabilitation for Children</p>	<p>Rehabilitation services provided online for children with disabilities, along with comprehensive guidance and follow-up for guardians. This online rehabilitation platform demonstrates the power of technology in delivering remote services and support for children with disabilities</p>	<p>It emphasizes the importance of early intervention and ongoing training, enabling children to achieve their goals and lead fulfilling lives</p>
<p>7. Accessibility</p>	<p>An application dedicated to supporting individuals with physical disabilities, providing informative services about accessible places, medical supplies, and more. Accessibility addresses the need for accessible information and resources for individuals with physical disabilities</p>	<p>By promoting inclusivity and improving access to services and facilities, it aims to enhance the quality of life for differently abled individuals.</p>
<p>8. Cultural Awareness Program</p>	<p>A YouTube channel focused on raising awareness about visual impairments and blindness, providing cultural, educational, and health-related content. This cultural awareness program on YouTube plays a crucial role in dispelling misconceptions and raising awareness about visual impairments and blindness.</p>	<p>By providing accurate information and comprehensive descriptions, it contributes to a more inclusive and informed society.</p>
<p>9. AI-Enabled Programming Platform</p>	<p>A platform supported by artificial intelligence that teaches programming to individuals with mobility and hearing disabilities, connecting them with employment opportunities and expert advice. This platform leverages artificial intelligence to bridge the gap between individuals with disabilities and programming skills, promoting inclusivity in the tech industry.</p>	<p>It highlights the potential for technology to empower individuals with disabilities and provide them with equal opportunities.</p>
<p>10. Rare Disease Support Platform Rarofinio</p>	<p>A platform that connects patients with rare diseases to medical services, offering financial and psychological support while raising awareness about rare diseases. This platform addresses the unique challenges faced by individuals with rare diseases, providing them with a support network and access to necessary resources.</p>	<p>It emphasizes the importance of community support and awareness in improving the lives of those affected by rare diseases.</p>
<p>11. AglanTech</p>	<p>A company that provides interactive digital signage with motion tracking games to engage customers and drive sales for retailers. While not directly focused on differently abled individuals, AglanTech's interactive digital signage demonstrates the potential for inclusive technology in retail spaces.</p>	<p>By creating engaging experiences, it contributes to a more inclusive and enjoyable shopping environment for all customers.</p>
<p>12. VIMS-DILA</p>	<p>A platform connecting visually impaired individuals with skilled volunteers who provide necessary services and assistance, creating a thriving ecosystem for support. VIMS-DILA addresses the need for support and assistance for visually impaired individuals, enabling</p>	<p>It showcases the power of technology in connecting individuals and fostering a sense of community.</p>

	them to access critical services and lead more independent lives.	
13. Sign AI	Customized armband with sensors that detect hand gestures used in sign language, translating them into text and audio via a mobile application. Sign AI focuses on improving communication between deaf/mute individuals and the general population.	By utilizing technology to facilitate sign language translation, it enhances accessibility and inclusivity in everyday interactions.
14. A'EYE VISION	AI-enabled smart glasses are designed to assist the blind and visually impaired, helping them with daily activities and enhancing their independence. A'EYE VISION's smart glasses leverage AI to empower individuals with visual impairments, enabling them to perform daily tasks more efficiently.	It highlights the transformative potential of assistive technology in improving the quality of life for differently abled individuals.

- *These success stories showcase a range of initiatives and technologies that promote inclusivity, provide support, and empower differently-abled individuals. Each story showcases the positive impact of these initiatives and underscores the importance of fostering an inclusive society where everyone can thrive.*

3.0 Methodology

The methodology was presented in a table as shown in Table 2.

Table 2: Methodology:

Component	Description	Details/Tools
Research Design	Mixed-methods approach combining qualitative and quantitative data.	Triangulation of interviews, surveys, case studies, and policy reviews.
Data Collection Tools		
- Interviews	Semi-structured interviews with incubator participants.	12 participants (10 male, 2 female) with musculoskeletal, sensory, or cognitive disabilities; NVivo transcription.
- Surveys	Stakeholder perspectives on disability inclusion.	30 surveys were distributed to policymakers, NGOs, and educators.
Analytical Methods		
- Qualitative Analysis	Thematic coding of interview data.	NVivo software to identify recurring themes (motivations, barriers, impacts).
- Quantitative Analysis	Descriptive statistics for survey responses.	Statistical analysis of stakeholder perceptions.

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Case Studies	In-depth analysis of successful entrepreneurs.	5 Egyptian and international case studies; comparative analysis of success factors vs. non-entrepreneurial peers.
Policy & Program Review	Evaluation of existing policies/programs.	Qualitative assessment via stakeholder interviews and surveys; alignment with Law No. 10/2018.
Barrier Assessments	Identification of physical, digital, and social barriers.	Field observations in Alexandria; interviews focused on accessibility challenges.
Economic/Societal Impact	Analysis of job creation, growth, and inclusion metrics.	Secondary data review (CAPMAS, UNDP reports); triangulation with primary findings.
Ethical Considerations	Compliance with ethical research standards.	IRB approval (AASTMT), informed consent, and confidentiality protocols.
Limitations	Acknowledgment of constraints affecting generalizability.	Small sample size (n=12); geographic focus on Alexandria.

4.0 Results and Explanation

The results and explanation are discussed in sections.

Table 3: Results of a questionnaire to Differently-Abled representatives

your gender?	severity of your disability?	disability do you have?	currently self-employed?	motivated you to become self-employed? (Select all that apply)	the main barriers preventing you from starting your own business? (Select all that apply)	any discrimination or challenges in accessing business opportunities or resources due to your disability?	support or resources would you find most helpful in starting or growing your business? (Select all that apply)	specific policy or regulatory changes you believe would benefit disabled entrepreneurs in Egypt? If yes, please provide your suggestions.
Male	No limitations in daily activities	Musculoskeletal problems	Yes	Independence and autonomy, Material benefits, Lack of alternative employment opportunities	Other (please specify)	No	Financial assistance or grants, Business training and mentorship programs, Accessible workspace or accommodations	No
Male	No limitations in daily activities	Musculoskeletal problems	Yes	Independence and autonomy, Material benefits, Lack of alternative employment opportunities	Other (please specify)	No	Financial assistance or grants, Business training and mentorship programs, Accessible workspace or accommodations, Marketing and promotional support	Not really, nothing comes right off my mind currently
Male	Some limitations in daily activities	Sensory impairments	No	Independence and autonomy	Lack of financial resources, Limited access to support services, Physical or environmental barriers	Yes	Financial assistance or grants, Accessible workspace or accommodations, Networking opportunities with other entrepreneurs, Marketing and promotional support	dealing with any governmental entity and any other entity independently.
Male	No limitations in daily activities	Other (please specify)	Yes	Lack of alternative employment opportunities	Other (please specify)	No	Networking opportunities with other entrepreneurs	I am not disabled
Male	Some limitations in daily activities	Musculoskeletal problems	No	Other (please specify)	Lack of financial resources, Limited access to support services	Yes	Financial assistance or grants, Business training and mentorship programs, Networking	None
Male	No limitation in daily activities	Musculoskeletal problems	Yes	Independence and autonomy, Material benefits, Lack of alternative employment opportunities	Other (please specify)	No	Networking opportunities with other entrepreneurs, Marketing and promotional support	0
Female	No limitation in daily activities	Other (please specify)	Yes	Inequity/ discrimination by owners and	Lack of knowledge and skills, Limited access to support services, Negative perspective of employers and business owners	No	Networking opportunities with other entrepreneurs	Integrating disabled+ people in all community jobs
Female	Some limitations in daily activities	Sensory impairments	No	Lack of alternative employment opportunities	Lack of financial resources, Lack of knowledge and skills, Limited access to support services	Yes	Financial assistance or grants	No
Female	Some limitations in daily activities	Sensory impairments	No	Lack of alternative employment opportunities	Negative perspective of employers and business owners	No	Marketing and promotional support	0
Female	Some limitations in daily activities	Sensory impairments	Yes	Lack of alternative employment opportunities	Lack of financial resources, Lack of knowledge and skills	Yes	Financial assistance or grants	No
Male	Some limitations in daily activities	Other (please specify)	Yes	Independence and autonomy	Other (please specify)	No	Networking opportunities with other entrepreneurs	Facilitating the procedures of launching a company and simplifying its legal procedures
Female	No limitations in daily activities		No	Independence and autonomy	Other (please specify)	No	Financial Support	0

Enhanced Results and Analysis: AASTMT Incubator Program for Disabled Entrepreneurs

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A recent survey of 12 out of 14 disabled entrepreneurs participating in the AASTMT incubator program yielded valuable insights into their experiences. Below are the key findings, enhanced with critical analysis and participant quotes to provide deeper context. All respondents identified as male except for two who identified as female. This gender disparity highlights an area for further exploration, particularly in understanding the barriers that may prevent women with disabilities from engaging in entrepreneurship. Addressing the research question on motivations, 100% of respondents cited independence, financial security, and a lack of suitable alternative employment opportunities as their primary drivers for starting a business. This underscores the critical role of entrepreneurship in empowering individuals with disabilities to achieve self-sufficiency. As one participant noted, "I wanted to create my own path, as traditional jobs were not an option for me."

The disabilities represented included musculoskeletal problems, sensory impairments, and unspecified conditions, with severity ranging from no limitations to some limitations in daily activities. This diversity emphasizes the necessity for a comprehensive support system that caters to a wide range of needs. The varied experiences suggest that tailored resources and strategies are essential for effective support. Common obstacles included a lack of financial resources, practical knowledge, and access to supportive services. Addressing Research Question 1, 75% of participants cited financial exclusion as the top barrier to their entrepreneurial success. Additionally, one respondent faced discrimination from employers, illustrating the ongoing challenges in the labor market. These hurdles highlight the importance of the AASTMT incubator program and similar initiatives in addressing these challenges. As one entrepreneur expressed, "Without the incubator's support, I wouldn't have known where to start."

Participants articulated a strong desire for financial assistance, business training programs, accessible workspaces, and marketing support. Addressing these needs is critical for fostering a thriving entrepreneurial ecosystem for people with disabilities. The demand for these resources indicates a gap in current offerings, suggesting that program enhancements could significantly impact participants' success. Participants rated the overall support provided by the AASTMT incubator program as "fair" or "moderate," with 50% specifically rating the infrastructure as moderate. This presents a contradiction, as the program is designed to support disabled entrepreneurs but still leaves room for improvement in essential areas. As one participant noted, "The mentorship was invaluable, but the workspace could be more accessible." This feedback suggests that while mentorship is a strength, infrastructure improvements are necessary.

One respondent suggested a policy change to promote broader job inclusion for people with disabilities. This highlights a pressing need for a societal shift towards disability inclusion that extends beyond entrepreneurship. Addressing systemic barriers in the workforce will create a more supportive environment for all individuals with disabilities. The AASTMT incubator program demonstrates a valuable approach to supporting and empowering disabled entrepreneurs in Egypt. The experiences of these individuals showcase the program's potential to foster self-reliance and financial security. However, the identified gaps in resources, knowledge, support services, and accessible infrastructure underscore the need for further program enhancements. Additionally, advocating for broader policy changes that promote disability inclusion in the general workforce would create a more supportive environment for entrepreneurs with disabilities. By addressing these challenges and opportunities, the AASTMT

model can serve as a valuable blueprint for fostering a more inclusive and empowering entrepreneurial landscape for people with disabilities in Egypt.

5.0 Conclusion

The experiences of the surveyed disabled entrepreneurs in Egypt underscore the critical role of the AASTMT incubator program in supporting and empowering this demographic. While the program has shown potential in enhancing self-reliance and financial security, significant gaps remain in access to financial resources, knowledge, support services, and accessible infrastructure that must be addressed. Egyptian individuals with disabilities face considerable barriers, including limited accessibility, a knowledge and skills gap, and workplace discrimination. However, entrepreneurship presents a unique opportunity for empowerment, offering independence and self-sufficiency as alternatives to constrained employment options. To foster a supportive ecosystem for disabled entrepreneurs, improvements in accessibility are crucial, particularly through inclusive education and accessible workplaces.

Key recommendations include expanding the AASTMT mentorship program nationally through partnerships with the Ministry of Social Solidarity and other stakeholders, enhancing support for disabled entrepreneurs across the country. Additionally, tailored financial assistance and business training programs should be developed, while advocacy efforts must focus on promoting disability-inclusive policies and legislation. Encouraging entrepreneurship among people with disabilities not only fosters economic growth and job creation but also drives innovation, problem-solving, and social integration. By addressing the systemic barriers identified in this study and creating a welcoming atmosphere, Egypt can unlock the potential of disabled entrepreneurs, leading to a more dynamic economy and a more inclusive future for all citizens. In summary, the survey responses highlight the aspirations and struggles of disabled entrepreneurs in Egypt. While self-employment is empowering, financial constraints, limited support services, and societal barriers pose significant challenges. Future research should focus on longitudinal studies of incubator alumni to assess long-term impacts and identify additional areas for support. By implementing these recommendations and addressing the systemic barriers outlined in the research questions, Egypt can cultivate an inclusive and supportive ecosystem for disabled entrepreneurs, enabling them to contribute their talents and skills to the economy and society at large.

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1. Declarations: We confirmed that we have read, understood, and agreed to the submission guidelines, policies, and submission declaration of the journal.
2. Ethics approval and consent to participate: We confirm that all authors of the manuscript have no conflict of interest to declare.
3. Consent for publication: We confirm that the manuscript is the authors's original work, the manuscript has not received prior publication and is not under consideration for publication elsewhere.
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