

Technology Business Incubators-TBIs Role in Promoting Freelancing Concept in Gig Economy "Case Study: Islamic University Incubator BTI"

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Abstract: This study aimed to identify TBIs incubators role in promoting freelancing concept in Gig Economy. The sample of the study was complete census (180) entrepreneurs using questionnaire as a main tool for primary data collection. Descriptive and quantitative approach used in this study. The general results of the study showed existence of a positive statistically significant intermediate relationship between incubators and the concept of freelancing among entrepreneurs of incubator at the Islamic University of Gaza. According to static analysis, incubator encourages entrepreneurs and freelancers to create and innovate, and provides the right atmosphere to implement creative ideas on the ground. Also incubator helps in networking and marketing, which is a mean part in freelancer business model. The study recommended that incubator must link entrepreneur's projects with financing programs, local and international investments, and networking between public and private sectors and investors with entrepreneurs. Also the study recommended that incubator should facilitate government procedures such as registration procedures, provide advice on obtaining financial aids, and provide legislations for freelancing. Study suggested more research to create mechanism that protect freelancer and Gig Economy workers' rights.

Keywords: Technology business incubators (TBIs), Entrepreneurs, Freelancing, Gig Economy.

1. INTRODUCTION

A long and rich research tradition exists on the phenomenon of business incubators since this kind of venture support institution first emerged. One can observe an increasing heterogeneity of incubation beyond the traditional mainstream focus on regional development and university-based incubators. In the last decade, the phenomenon of accelerators as a particular form of incubators received increasing research interest.

Many entrepreneurs dream about the possibility of creating their own business and feel a higher personal affinity for work in their own entrepreneurial projects. [1]

Nevertheless, the entrepreneurial attitude required for starting a new business must find support and favorable conditions to the first years and to allow transferring technology or knowledge to be transferred to the market. Several new ideas die in laboratories and universities as inventions, and never reach the market as innovative products or services. In part, these difficulties in technology transfer are related with scientists' orientation toward industry, perceptions of the benefits of commercial engagement, the tradeoff between effort and potential rewards of commercialization and perceived rewards of proprietary or public science associated with the breadth or degree of entrepreneurship. [2]

According to Bliemel et al. (2016), BIs support the survival of start-ups, but only the more recent generations of incubators have placed their focus on a set of value-added services that enhance their business model. [3]

BIs can contribute to minimizing the 'death valley' of start-ups incubated due to the support in the first phases of the entrepreneurial process, where they can have access to services and facilities which are valuable to young start-ups and entrepreneurs. [4]

The development of Internet technology (IT) at the end of the 20th century and its integration into the business sector has led to the emergence of digital labour platforms that provoke a reorganization of work arrangements by matching the demand and supply of goods and services, known as the "Gig Economy". The "Gig Economy" stands for economic activities or work arrangements related to the performance of very short-term tasks facilitated by digital platforms and can include freelance work, temporary work, work on-demand and contract work. [5] [6]

Freelancers belong to the self-employed category of entrepreneurial activity that does not employ workers, who pay their own taxes, work on projects, work for several clients, and work remotely, usually from home. According to various sources and findings, they are also referred to as entrepreneurs, solopreneurs, digital micro-entrepreneurs, hybrids of employees and entrepreneurs, enablers of entrepreneurship, potential entrepreneurs.

Despite the importance of freelancing, researches in this field does not meet the required purpose, as researchers did not find - within the limits of their knowledge - studies that dealt with freelancing and technology business incubators at the Islamic University. Through the survey visits conducted by researchers and the review of the strategic plans of the incubators under study, the researchers generated an impulse for the necessity of investigating the field of freelancing on a

sample of entrepreneurs at business and technology incubator (BTI) at the Islamic University of Gaza, which is expected to be related to the problem.

According to Basil Qandil, (2021), director of business and technology Incubator at the Islamic University (BTI), he stated in an interview with "Palestinian Economy Network": *"As part of "LOGIN" project implemented by the BTI incubator with funding from the World Bank and under the supervision of the NDC, and during the publication of an announcement to attract new trainees to benefit from the project's activities, we were surprised by the large number of applicants as about 20,000 graduates applied to join the project, which is a staggering number. We will only choose about 200 male and female graduates, that is, only 1% of the total number!"*

Knowing also that total number of applicants for the three institutions implementing the same project (including BTI) is approximately 28 thousand. These figures indicate the difficult situation that graduates live in light of the scarcity of traditional employment opportunities, so resorting to self-reliance, whether through freelance work via the Internet or through entrepreneurial projects, are the only solution. [7]

In view of the literature review, the article raises the question of:

Q1. What is the role of BTI in promoting freelancing concept in Gig Economy?

Q2. Does BTI assist spreading freelancing concept between entrepreneurs?

Q3. To what level Gig Economy concept been accepted by BTI entrepreneurs?

2. LITERATURE REVIEW

2.1 Technology Business Incubators (TBIs)

The idea of incubators is inspired by the incubator in which incomplete children are placed immediately upon their birth in order to overcome the difficulties of the special circumstances surrounding them by preparing all means for their care, and then the newborn leaves the incubator after we make sure of its strength and ability to grow and normalize life among others. [8]

Incubators can be defined as an environment for an integrated framework of place, equipment, services, facilities, support mechanisms, consulting and organization designed to assist entrepreneurs in managing and developing new establishments (productive or specialized in research and development), provided that the care and support of these establishments is done in a limited period of less than two years, usually including It mitigates these pioneers from the usual risks and provides these enterprises with greater opportunities for success, through an institutional legal entity for this purpose. [9]

The business incubator is defined as a contemporary organization of the current business environment characterized by strategic entrepreneurial trends that contribute mainly to supporting and strengthening all types of projects and small and medium businesses, leading to

overcoming the problems and obstacles that hinder the work of these projects and businesses. It is also known as self-standing organizations that have a legal entity that provides small investors with a set of facilities services in order to charge them with an initial payment that enables them to overcome the burdens of life, and these organizations can be affiliated with state, incubator or mixed. [10]

BIs began in the 1960s and really took off in the late 1990s as support for start-up companies who needed advice and venture capital to get their ideas off the ground. BIs spread in the 1980s, a priori as providers of work spaces, allowing clustering of companies in the same space. In the 1990s, incubators expanded their proposals beyond providing the infrastructure to include providing business support and increasing entrepreneurs' networking. It became evident that new firms needed a certain type of support, especially in soft skill areas such as understanding market conditions and how to manage a firm. [11] [12]

Carvalho and Galina (2015) proposed the virtuous triad. This virtuous triad reflects different perspectives and the evolution of the role of BIs in promoting entrepreneurship and includes two approaches. On one hand, assisting tangible resources, such as infrastructures, are important to support growth and increase the survival rates of nascent business. On the other hand, it is fundamental to provide intangible resources, such as business services and networks that are critical to minimize the risk of a business closing down in its first years. [13]

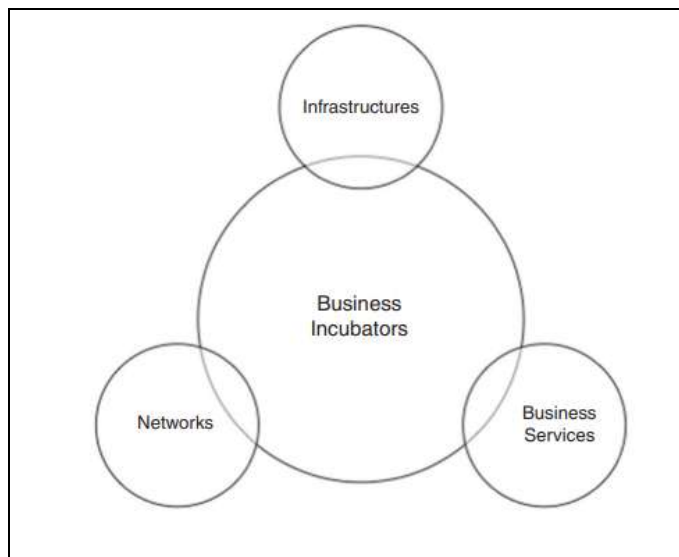


Fig.1 Virtuous Triad

Source: Carvalho & Galina (2015), p. 259

Since incubators play a central role in supporting entrepreneurship and policymakers foster their creation, the number of incubators in the world has risen. The provision of reduced cost space to entrepreneurs was a key feature of the first generation of business incubators which first emerged in the 1950s. Incubator programs have evolved substantially over time from providers of office space and ad

hoc business services into more active partners in the creation of ventures. [14]

Table (1) presents the types and models of incubators in the literature, ordered by year of publication. The types of incubators are distinguished by their governance or by their tenants. A corporate incubator is one example of a type of incubator. Another example is a university incubator. An incubation model describes the way in which the incubator works, and more in general the rationale behind how it creates, delivers and captures value. A low selective incubator is an example of an incubation model. These types and models are usually focused on business incubators that support traditional start-ups. [15]

Table 1: Types and models of incubators

Year	Author	Types	Models
1985	Cooper; Allen & Rahman; Plosila & Allen	Business incubators	
1987	Smilor	Corporate incubators.	
1990	Allen & McCluskey	Four types of incubators: for-profit property development; nonprofit development corporation; academic; for-profit seed capital.	
2000	Nowak & Granthamr	Virtual incubators	
2002	European commission	Four types of incubators: business and innovation centres; science/technology park incubators; specialised incubators (e.g. rural); other types.	
2004	Aernoudt	Five types of incubators: mixed; economic development; technology; social; basic research.	
2005	Carayannis & von Zedtwitz	Five types of incubators: regional business; university; independent commercial; company internal; virtual incubators	
2005	Grimaldi &	Four types of	Two distinct

Year	Author	Types	Models
	Grandi	incubators: business innovation centres; university business incubators; independent private incubators; corporate private incubators	incubation models: public (business innovation centres) and private (independent private incubators and corporate private incubators)
2006	Von Zedtwitz & Grimaldi	Five types of incubators: university; regional business; company internal; independent commercial; virtual incubators.	
2012	Barbero et al.	Four types of incubators: basic research; university; economic/regional development; private incubators.	
2016	Adomdza	Student-run accelerators.	
2016	Pauwels et al.	Accelerators.	
2017	Mrkajic		Two distinct incubation models: nascent and seed.
2019	Moschner et al.		Four models of corporate accelerators: in-house accelerator; hybrid accelerator; powered by accelerator; consortium accelerator.

Source: Sansone et al. (2020), p. 122.

TBIs are a mechanism that could create supportive and entrepreneurial environments for technology-based start-ups. They are designed to offer start-up founders technological support and services by bridging the knowledge gap to enable the latter to realize product ideation, innovation, product development and marketing leading to successful

start-up emergence. Thus they are an innovative developmental instrument. [16]

According to Narayanan & Shin, (2019), incubators are an organizational form intended to facilitate entrepreneurship, and are anchored in market failure perspective. Business incubators are organizations that are engaged in nurturing the process of new venture creation and therefore, hailed as an essential tool for fostering growth in start-ups. [17]

Performance assessment of TBIs in terms of outcomes and achievements has to be done with respect to their stakeholders and facilities they provide in terms of hard and soft infrastructure, and the incubation process the entrepreneurs would undergo toward firm formation. [18] [19]

Technology and business incubators (TBIs), technology incubators (TIs) and business incubators (BIs) are common in services provided for entrepreneurs.

Barbero et al. (2014) and Fritsch & Slavtchev (2011) summarized services that incubators provide for entrepreneurs: [20] [21]

1. Consulting services: This includes feasibility studies for projects and the implementation of comprehensive quality consultations.
2. Administrative services: including establishing companies, accounting services, preparing invoices, and renting equipment.
3. Secretarial services.
4. Marketing services: including product development consulting, packaging, pricing and product management, marketing services, and so on.
5. Financial services: such as assistance in obtaining financing through finance companies or government programs.
6. Public services: such as security, training places, computers, providing offices and storage places, and a system and mechanism for public relations.

University business incubators (UBIs)

Over the past two decades, universities have been urged to become more accountable to the wider public and to contribute directly to the local, regional and national economic development through taking on a range of "third mission" activities. Such activities include the incubation of start-up firms, knowledge commercialization, the development of knowledge transfer partnerships and providing entrepreneurship courses.

University business incubators (UBIs) are uniquely positioned to foster transnational entrepreneurship and the evolution of business and technical communication practices on a worldwide basis. UBIs facilitate the launch of start-ups by professors, students, researchers, and local entrepreneurs. [22]

University business incubators (UBIs) are non-profit incubators which are economically funded and created to promote academic entrepreneurship. [23] [24]

UBIs operate as a tool created by entrepreneurial universities to support newly created technology firms. The two main categories of services offered by UBIs are the usual services

provided by incubators such as rent reductions, access to capital and shared office space, as well as university related services such as laboratories, technology transfer services, and faculty acting consultants. [25] [26]

Universities, entrepreneurship and BIs have reciprocal relationships where new concepts are being developed as a result of these relationships. These relationships are necessary as universities are the source of knowledge, research, resources and today's innovation-driven centers. The affiliation or management of a BI program inside a university represents a great advantage for the entrepreneurs, as these institutions can provide links to the industry, society and government entities. [27]

Universities and their UBIs are now recognized as important elements of the entrepreneurial ecosystem. Entrepreneurial ecosystems have been defined as the combinations of elements – such as agents, social structures, institutions, and cultural values – that encourage and support entrepreneurial activity related to starting, funding, and assisting the creation of innovative new ventures. [28] [29]

Within the ecosystem and over time, change has been observed in activities and service offerings across different generations of incubator models.

2.2 Gig Economy and freelancing

The Gig Economy is a new and as yet unknown phenomenon, which is reflected in the growing number of online labour platforms for job placement worldwide.

Previous analyses conducted on the future world of work point in the direction of a hyper-mobile labour market, where workers shift between various forms of employment and will at times have multiple, simultaneous workplaces. The first signs of a hyper-mobile labour market are reflected in the recent emergence of 'new forms of work' organized via online platforms.

This so-called collaborative economy, which is also known as the 'Gig Economy', covers various sectors and is rapidly emerging globally. The new phenomenon opens up many opportunities with regard to economic benefits for the economies including for instance: creation of new employment structures, an increase in productivity and the improvement of consumers' access to goods and services. Nonetheless, these new forms of work also pose risks to working culture, threatening to create a second (parallel) labour market with poorer social and fundamental rights leading to a hollowing out of social model. [30]

Gig Economies are those economies where individuals market their skills, whether in unskilled labor markets, such as Uber drivers, or as skilled professionals, such as coders who bid out their services on sites such as Upwork. However, many workers are forced into this Gig Economy and not by choice. Using Gig Economy companies, freelancers piece together a livelihood from a range of activities". [31]

As far as the US is concerned, 36% of the workforce is part of the Gig Economy, and forecasts show that if the Gig Economy continues to grow at its current pace, more than

50% of the US workforce will be participating in it by 2027. [32]

In terms of global Gig Economy statistics, 20-30% of the US and EU-15 labour force is involved in the Gig Economy. The UK Gig Economy also appears to be following in the footsteps of the US in terms of growth. [33]

In addition, it is important to point out that some author's claim that the Gig Economy considers not only work controlled and delivered remotely and over digital platforms, but also work delivered locally. Such local Gig work typically includes food delivery, curation, transportation, services, and manual work. Remote Gig work, on the other hand, consists of the remote delivery of a variety of digital services ranging from data entry to software programming via online labour platforms. [34] [35]

However, freelance income report shows that more than 70% of all freelancers find projects via Gig websites. Some of the largest websites offering Gig work are Upwork, Fiverr, and Freelancer. This also supports an index that measures the use of online labour platforms and shows that their use is increasing at an annual rate of 26%. [36]

The recent emergence of apparently new forms of work organized via online platforms has attracted considerable attention in the media and, more recently, among policy makers, but so far the serious academic literature on the topic is rather sparse.

Gig Economy, can be grouped into three broad categories as following: [37]

First: On-demand work through apps, in which each task is assigned to a person who performs a material and concrete activity. These are platforms that operate locally, such as Deliveroo, TaskRabbit, Handy, Wonolo, Uber, BeMyEye, Lyft, Care, Foodora and others.

Second: Crowd work, the so-called work of the crowd: programmers, freelancers, computer scientists, professionals, who from home (or from their own studio) make themselves available to perform a multitude of different jobs. These are platforms that operate globally, such as UpWork, Freelancer, Amazon Mechanical Turk, Twago, GreenPanthera, CrowdFlower, Vicker and others.

Third: Asset rental, renting and leasing of goods and property, sharing economy. In these cases, the work performance, if there is one, is optional, as in the case of the owner of an apartment for rent on Airbnb who also takes care of the reception and final cleaning.

Some authors adopt a more restrictive approach, excluding the third category, asset rental, while other authors further broaden the definition to a fourth category, the sales platforms such as Etsy, eBay, Dawanda.

The first two categories represent two substantially different types of workers. If on-demand workers via app are matched by an executive off-line translation (rider) in a physical place, crowd workers perform their work online and therefore potentially anywhere with online access.

Current study focused in second group crowd work. Crowd work is work that is organized via online platforms covers a

wide range of different variables, many of which overlap with other categories of work. It may be paid or unpaid, a sole source of income or carried out in addition to another job, carried out online or offline (albeit managed by online means), carried out on the worker's own premises, on a client's premises or in a public space, or producing a service for a member of the general public or for a corporate client. Furthermore, the worker may be regarded as employed, self-employed, an independent contractor or some other employment status. [38] [39]

The number of jobs attributable to the Gig Economy seems even more difficult to determine than the measurement of the number of labour platforms. Crowd work or cloud work appears to be interesting as well, both for the direct impact on the market and for the consequent process of online outsourcing by the "traditional" economic entities.

Some studies show results of certain value to read the dynamics in place. Online outsourcing is a win-win solution for businesses and workers alike: [40]

- Companies have access to a highly professional labour market, with flexible and fast hiring processes without transaction costs and with 24-hour productivity;

- For workers, access to a global labour market with low entry barriers.

Processes of online outsourcing concern both micro work (where the work project is segmented into smaller parts - micro tasks - and entrusted to a plurality of workers) and freelancing (where the project is entrusted to profiles with a higher professional content). The most popular online outsourcing platforms are Freelanceer, Upwork, Crowdflower, Amazon Mechanical Turk (AMT) Samasource and Cloudfactory.

Fig. 2 presents a typology of the foregoing categories based on skill level and location, with representative platforms.

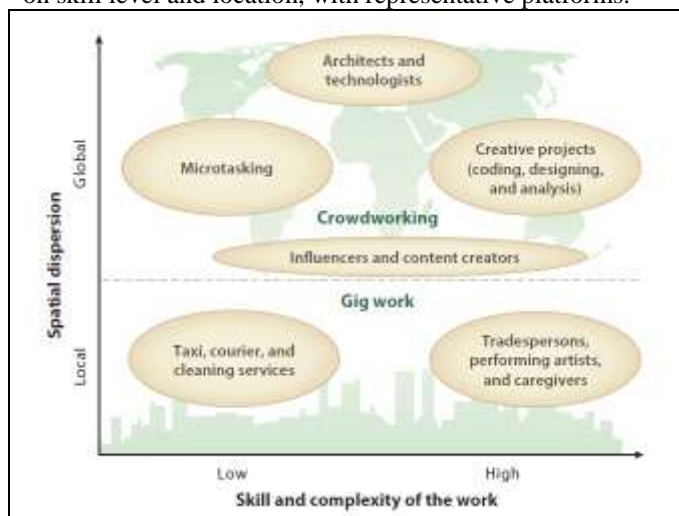


Fig.2 Types of work in the platform economy

Source: Forde, C., Stuart, M. & Joyce, S. (2017). p. 32.

The demand for online freelancing comes mainly from small businesses, while the demands for micro work from medium to large businesses. A survey of Fortune 500 companies shows that between 2016 and 2017 online outsourcing

projects have increased by 26%, that 28% of Fortune 500 companies have used Upwork in the last year and that in 2017 companies such as Airbnb, Dropbox, GE and Samsung have posted more than 30,000 projects on Upwork.

According to the Future Workforce Report 2018, 90% of HR managers prefer to use online freelancing rather than temporary employment agencies for administrative savings and faster performance. The McKinsey Global Institute estimates that by 2025 cloud work platforms will produce about 2% of the world's GDP. [41]

2.2 Incubators and freelancing

Regarding back to second type of crowd workers, or cloud workers discussed in previous paragraph, which one of platforms is incubators. Cloud-based consultants or freelancers offer professional services via platforms such as UpWork or Freelancer. Like architects and technologists, these workers provide professional services, but they are users rather than creators of platforms. Their work is often untethered to an individual workplace or geographic locale; although some authors find geographic clustering even on global platforms specializing in digital labor. [42]

This group is distinguished by a high degree of technical competence in fields such as graphic design, computer engineering, and journalism, usually involving staff on a project-specific basis. Only if they succeed in sustaining a decent roster of clients will cloud-based consultants always obtain a reliable source of income.

A key issue is whether platforms that support this type of labor encourage the outsourcing of work by firms operating in the traditional economy or provide a digital infrastructure that is replacing temporary employment agencies. [43]

With the rise of the collaborative economy in (2008-2009), labor platforms intensified. Sharing platforms in their original incarnation referred to peer-to-peer mechanisms which mobilize idle resources, such as renting spare rooms or offering car rides. [44]

Economists emphasized the ability of algorithms and crowd-sourced ratings and reputational information to reduce transaction costs and foster trust, enabling peers to compete in these new markets.

Although the sweeping claims identified with the early platform economy lost plausibility as for-profit platforms scaled, some theorists continue to emphasize the transformative power of the platform revolution and the ability of peer-to-peer connections to erode the dominance of the conventional corporate model. [45] [46]

Advantages of freelancing

1-Platforms reduce transaction costs by reducing the need for bureaucratic intermediaries, and remove barriers that have hindered the participation of rural residents, people with disabilities, or those with care-giving responsibilities in the labor force. In addition, these properties can be monetized by owners of vehicles, houses, instruments and other products, unlocking their latent value in ways that reduce their reliance on labor income. Some argue these opportunities will be especially advantageous to low income households. [47]

2-Platforms can crowd source reputational scores for participants, they foster trust among potential transactors without the need for costly advertising. In this view, many of the rigidities of the corporate economy are destined to recede in favor of a more egalitarian form of crowd-based capitalism in which corporate hierarchies no longer represent the dominant structure of economic activity. Crucially, the employment relation itself loses its predominance in the wake of an emerging networked society of micro-entrepreneurs. [48]

3- One indication of this shift is that many platform workers are afforded flexibility and choice that are not common among nonprofessionals in conventional jobs, as we discuss in the section titled Permissive Potentates. [49]

4- It is not necessary to work with those customers that you do not like or cause a lot of unnecessary trouble. Being on freelance, you can terminate the contract or, having completed the work, stop cooperation with the company. There is no such possibility inside the company: it is necessary to work and produce a result, regardless of whether you like to do the assigned tasks or not. [50]

5- Working remotely, one encounters uncertainty and fluctuations in income. But these revenues are directly dependent on the freelancer himself: he receives as much as orders or projects managed to complete.

Disadvantages of freelancing

1- Studies confirm that in remote employment, workers sometimes complain of a lack of communication. One of the values of work in the office is the opportunity to consult with colleagues, to study with more experienced employees. To work on freelancing requires the ability to search for answers to questions, engage in self-study, to build their own development plans. [51] [52]

2- In addition to job insecurity, many freelancers also report continuing problems with employers who do not pay on time and the possibility of long periods of unemployment.

3- Freelancers do not receive unemployment benefits, such as pensions, sick leave, paid leave, bonuses or health insurance, which can be a serious problem in future. [53]

4- According to a study of the Russian-language market of distant work of the Higher School of Economics, if we compare the self-employed workers and office workers, the former look more successful in terms of income. Even though the earnings of a freelancer may vary from month to month. At the same time, income is limited only by the capabilities of the employee himself, and this is his great advantage. [54]

5- It is necessary to plan and break your activities on time in order to take the work on time. In addition, for remote work it is important to be able to motivate yourself to work. [55]

6- The greater exposure to occupational risk, whether physical or psycho-social, is linked to the younger age trend of gig workers, the absence of specific training in health and safety and, generally, the difficulty of determining a specific regulatory system. Working on online digital platforms involves risks such as permanent exposure to

electromagnetic fields, eye fatigue and musculoskeletal problems. [56]

From previous literature review, the following hypotheses in this research can be written as the following:

H1: *There is a statistically significant relation between technology business incubators-TBIS and freelancing concept in Gig Economy among BTI entrepreneurs.*

And from main hypothesis we have four sub- hypotheses:

H1-1: *There is a statistically significant relation between entrepreneurial services and freelancing concept in Gig Economy among BTI entrepreneurs.*

H1-2: *There is a statistically significant relation between financial services and freelancing concept in Gig Economy among BTI entrepreneurs.*

H1-3: *There is a statistically significant relation between marketing services and freelancing concept in Gig Economy among BTI entrepreneurs.*

H1-4: *There is a statistically significant relation between technical services and freelancing concept in Gig Economy among BTI entrepreneurs.*

H1-5: *There is a statistically significant relation between consulting services and freelancing concept in Gig Economy among BTI entrepreneurs.*

H2: *Technology business incubators-TBIs affect on freelancing concept in Gig Economy among BTI entrepreneurs.*

3. RESEARCH DESIGN

3.1 Research population and mythology

This study conducted at BTI in Islamic University Gaza on entrepreneurs with total number (180). The research sample used complete census mythology. The number of valid questioners was (165).ⁱ

Since the nature of hypothesis and the variables involved are the ones that control the selection of the appropriate tool, accordingly, the researchers have prepared a measure for that study commensurate with its objectives and requirements, the elements of TBIs freelancing concept.

The process of designing and preparing the study scale has gone through several stages. Review the literature of TBIs, freelancing, and previous studies on the subject of the current study. After that collecting and define scale paragraphs. And formulation of the standard expressions according to the study sample.

Then setting and modify the meter instructions and correct it. Also authors conduct the stability and honesty of the scale.

The first dimension referring to TBIs prepared by the authors from (38) paragraphs and five sub-fields (entrepreneurial services, financial services, marketing services, technical services, consulting services). The second dimension of the instrument which measure organizational freelancing was developed depending on literature review and consist from (11) paragraphs.

Also Trustees validity has been conducted by a group of expert in freelancing and TBIs. Those statements were further revised and modified by the experts in a subsequent stage before drafting the final version of the questionnaire.

A five-point Likert scale of agreement was used for measurement, running from “Strongly Agree” to “Strongly Disagree”, with a Neutral category for scale midpoint.

Several statistical tools were used for data analysis and hypothesis testing, including reliability Correlation using Cronbach’s alpha, split-half, T test, step-wise regression and Pearson Correlation.

3.2 Validity and reliability assessment

The study adopted Cronbach’s α and split-half to measure the internal consistence reliability of the questionnaire. The results showed that Cronbach’s α value and split-half for all dimensions were $> (0.5)$. It indicated that the design of the questionnaire had a high internal consistency as shown in table (2).

Table 2: Coefficients of Alpha Cronbach & Split-half

Field	No. of paragraphs	Alpha-Cronbach stability	Split-half
TBI	38	0.923	0.955
freelancing	11	0.700	0.700
All fields	49	0.923	0.933

3.3 Data analysis and discussion of results

Descriptive analysis for independent variable (TBI) to determine weighted average and rank for paragraphs are shown in table (3).

Table 3: Descriptive analysis for TBI

NO.	Sub-Field	Mean	Dev.	Weight	Rank
1	Entrepreneurial services	3.90	0.39	77.92	1
2	Financial services	3.62	0.55	72.36	5
3	Marketing services	3.74	0.42	74.83	3
4	Technical services,	3.67	0.40	73.34	4
5	Consulting services	3.76	0.44	75.27	2
	Total Results	3.74	0.37	74.74	

According to previous table (3), the relevant importance can be shown as following:

1- The respondents agreed on that the TBI provide entrepreneurial services with weight (77.92%). This respond rank (1) as it is major function in TBIs. It is clear from this that TBIs supports entrepreneurs and provides them with the appropriate environment for creativity and innovation in their field of work, and they have the ability to obtain projects funded by external parties that encourage entrepreneurs.

2- Financial services ranked fifth with weight (72.63%), which leads to the fact that there is a lack of financial institutions availability to support entrepreneurial projects.

3- In general view, independent variable TBIs results is acceptable with weight (74.74%), as BIT put high effort to support entrepreneurs using facilities they own.

Table4: Descriptive Analysis for Freelancing

No.	Field	Mean	Dev.	Weight	Rank
1	New technology contributes to a great spread of freelancing culture in Gaza Strip.	4.49	.607	89.73	1
2	TBIs play an effective role in spreading freelancing culture of among students and graduates.	4.32	.530	86.49	2
3	High unemployment rates in the Gaza Strip contribute to graduates trend towards adopting freelancing through TBIs.	4.19	.701	83.78	4
4	Experiences of successful graduates of Gaza Strip, which TBIs publish in social media platforms, contribute to motivating and encouraging graduates to continue their freelancer	4.11	.516	82.16	6
5	Freelancers educate others, introduce them to freelancing platforms, and urge them to take advantage and work on them as an effective solution to the unemployment problem.	3.95	.664	78.92	9
6	Freelancing platforms play a major role in introducing their services and spreading the culture of freelancer among graduates.	4.16	.553	83.24	5

No.	Field	Mean	Dev.	Weight	Rank
7	There is a tendency among universities to adopt freelancing model in order to employ less paid workers who are more willing to work.	3.73	.693	74.59	10
8	There are legal and regulatory legislations that fully guarantee freelancer rights.	2.65	1.060	52.97	11
9	Freelancing considered as alternative job opportunity for graduates in Gaza under economic pressures and highly cost of living.	4.32	.669	86.49	3
10	International institutions in Gaza Strip contribute in orienting and training those interested with freelancing skills.	3.95	.575	78.92	8
11	Social media helps to spread culture of freelancing to largest number of interested parties.	4.11	.567	82.16	7
Total Results		4.00	0.30	79.95	

According to previous table (4), the relevant importance can be shown as following:

1- The respondents agreed on that means of modern technology contribute to a great spread of the culture of freelancing in Gaza Strip with weight (89.73%). This is due to the fact that many freelance platforms seek to market themselves electronically through various social media sites.

2. Phrase (8) "There are legal and regulatory legislations that fully guarantee freelancer rights" ranked (11).

According to Akhmetshin et al. (2018), there are many disadvantages like: insecurity, minimum wages, not payment from clients, high competitors, etc.. Dazzi, (2019) discussed some specific risk areas in relation to platform workers. In particular, a higher accident rate for gig workers can be compared to that found for the more fragile working areas, such as precarious and discontinuous workers.

Unfortunately, as freelancer not from one country that can apply their local labour market legislation, it is still to now not discuss globally.

3- In general view, dependent variable freelancing results is acceptable with weight (79.95%), as freelancing is increasing rapidly worldwide especially after Covid-19.

Pearson correlation coefficient used to test main hypothesis H1 and sub- hypotheses as shown in next table number (5).

Table 5: Pearson Correlation Coefficient between TBI and Freelancing

NO.	Hypothesis	Pearson correlation coefficient	Sig.
1	H1-1: <i>There is a statistically significant relation between entrepreneurial services and freelancing concept in Gig Economy among BTI entrepreneurs.</i>	0.576*	0.000
2	H1-2: <i>There is a statistically significant relation between financial services and freelancing concept in Gig Economy among BTI entrepreneurs.</i>	0.310*	0.000
3	H1-3: <i>There is a statistically significant relation between marketing services and freelancing concept in Gig Economy among BTI entrepreneurs.</i>	0.445*	0.000
4	H1-4: <i>There is a statistically significant relation between technical services and freelancing concept in Gig Economy among BTI entrepreneurs.</i>	0.686*	0.000
5	H1-5: <i>There is a statistically significant relation between consulting services and freelancing concept</i>	0.417*	0.000

NO.	Hypothesis	Pearson correlation coefficient	Sig.
	<i>in Gig Economy among BTI entrepreneurs.</i>		
	H1: <i>There is a statistically significant relation between technology business incubators-TBIs and freelancing concept in Gig Economy among BTI entrepreneurs.</i>	0.562	

Table (5) reveals that the findings of significance level for all hypotheses are less than (0.05), which means that we can rely on the previous model and circulating the sample results on research community.

The main hypothesis result showed that Pearson correlation is (0.562) and Sig. ≤ (0.000). This indicates a statistically significant relationship between TBIs and freelancing in Gig Economy.

Therefore, the results of the analysis proved the existence of a relationship between the independent variable (TBIs) and the dependent variable (Freelancing in Gig Economy). According to that, we accept hypothesis H1.

H1: *There is a statistically significant relation between technology business incubators-TBIs and freelancing concept in Gig Economy among BTI entrepreneurs.*

Step-wise regression used to test second hypothesis H2 that states "*Technology business incubators-TBIs affect on freelancing concept in Gig Economy among BTI entrepreneurs*".

Table 6: Anova Test

Field		Model	DF	F
Freelancing		Regression	3	31.17
R	R ²	Resident	162	Sig
0.686	0.471	Total	165	0.000

Results of Anova test in table (6) indicate that sig. is less than (0.05) for independent variable (TBIs), which mean that there is significant statistically effect for independent variable (TBIs) on freelancers.

Pearson coefficient and regression coefficient sign for independent variable was positive. This result means whenever the value of independent variables increase, there will be increase in freelancing.

Changes in the independent variable is responsible for the interpretation of a rate (r²= 47.1%) of all the changes that occur in freelancing, and there is a rate (100 - r²) due to other factors specific to the other independent variables and other factors not mentioned in the model, in addition to the random error.

Table 7: Step Wise

Dependent Variable	Model	B	T	Sig
Freelancing	constant	2.093	6.103	0.00
	Technical services	0.519	5.584	0.00
	Variables excluded			
	Entrepreneurial services	0.233	1.486	0.146
	Financial services	-.006	-.045	0.965
	Marketing services	0.083	0.554	0.583
	Consulting services	-.015	-.093	0.926

Table (7) reveals that the findings of significance level are less than (0.05), which means that we can rely on the previous model and circulating the sample results on research community.

According to step-wise regression, some factors eliminated from the model for lack of statistical significance (Entrepreneurial services, financial services, marketing services, consulting services).

Therefore, the results of the analysis proved the existence of a relationship between the independent variable and the dependent variable.

From that, we can determine the figure of step-wise regression equation for the impact of TBIs on freelancing concept. This equation can be written as follow:

$$\text{Freelancing} = 2.093 + (0.519) * \text{Technical services}$$

According to that, we accept hypothesis H2.

H2: *Technology business incubators-TBIs affect on freelancing concept in Gig Economy among BTI entrepreneurs.*

4. CONCLUSION

Although there are clear evidences from literature review about the importance of TBIs and freelancing, and the highly attitude to adopt cloud workers or micro workers in Gig Economy, freelancing still in deep need to be adopted from community in Palestine.

Findings of this article explore important facts that must focused more in the future. Most encouraging finding was the existence of a positive moderate statistical relationship between technology and business incubators and the concept of freelancing among entrepreneurs of business and technology incubator (BTI) at the Islamic University of Gaza. The main interest for (BTI) is to encourage entrepreneurs to create and innovate in closed environment they living in Gaza strip.

Results showed that business incubator provide the appropriate environment for entrepreneurs to implement

creative ideas on the ground. Also business incubator works on developing the details of entrepreneur's projects budget.

Finance still main and important factor that each freelancer or entrepreneur seeks for it. Business incubator contributes to identifying appropriate sources of financing for projects. This might be easy some sort for freelancers as there are many global platforms, but still Arabic plat forms do not provide appropriate training for new cloud workers. TBIs try to fill this gap buy some consulting and entrepreneurial services. More training effort from (BTI) is an advantage for freelancers. Teaching them how to bid, how to compete with professionals, how to upgrade their skills is a mandatory issue.

The last result to discuss is legislations. This point is very critical issue. Gig Economy is global economy; something cannot control or keep modifying it. Labour regulations differ from region to region. Clients all over the world, no physical communications no enough guarantees you will get pay. It is just the platform as third party between client and freelancer. Risk of fraud or not paid is exist. We cannot deny that, also we cannot force freelancers and entrepreneurs to commit to each country regulations. It is still fuzzy topic.

Authors recommend more adoption to TBIs in Palestine and the important rules played in Gig Economy. In 2020 world faced Covid-19 (The Covid Pandemic), and still in 2021. Most companies and economies affected by Covid Pandemic. This creates high demand on freelancers globally. As economy facing up normal challenges since past 2 years, crowd workers or micro workers might be the future of labour market. Freelancing is not new concept, but turning it to life style is the new. Governments and education institutions have great responsibilities to generate new accepted models from freelancing that provide suitable income and decent life for unemployed. Universities are directed to adopt freelancing model in order to employ less paid workers who are more willing to work.

Another recommendation that must implemented from current freelancers. They must educate others, introduce them to freelancing platforms, and urge them to take advantage of platforms and work on them as an effective solution to the unemployment problem.

TBIs must work to strengthen the ties between the public and private sectors and investors on one hand, and the entrepreneur on the other hand. Financial facilities like bank loans at low interest rates or without interest can be motivation for many entrepreneurs and freelancers.

Finally, the current environment that faces to more adoption for distance work or study with isolation in some regions must be motivation factor to improve creativity and innovation. Freelancing is a challenge that might be the future of labour market in Gig Economy.

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