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Incubation Process: A Key Innovation Lever for Successful Start-Up Businesses

Maryam Elbahjaoui¹, Abdelaziz Elabjani²

¹Cadi Ayaad University, Marrakech, Morocco, bahjaoui20@gmail.com

²Cadi Ayaad University, Marrakech, Morocco, aelabjani@gmail.com

ABSTRACT— The purpose of this research is to describe the incubation relationship to establish win-win relations between incubator and entrepreneur, which allows us to get around all the obstacles that prevent us from maintaining a sustained level of innovation. Within an ecosystem of entrepreneurial support, the incubator has a leading role because, he constitutes the bridge between the entrepreneur and the external environment, to create this relationship; he develops cooperative strategies with other incubators so that his support offer has clarity and good legibility for projects leaders. The findings are useful for incubators and entrepreneurs-owners of start-ups in their efforts to enhance the innovation of their firm.

Keywords— Incubation, innovation, startup, morocco.

I.INTRODUCTION

Increasing attention is being paid to accompanying the creator. The majority of studies highlight the contribution of support structures to the success of the entrepreneurial process (Sammut, 1995).[1] The weight of support structures is therefore essential to transform a business project into a sustainable enterprise.

In Morocco, the concept of business creation faces several challenges linked essentially to the low maturity of support structures, difficulties in accessing finance etc. In order to meet these challenges, several public and private initiatives have been created. In this sense, incubation structures are developing in a remarkable way in Morocco, with the aim of supporting entrepreneurs to succeed in their projects and to transform their ideas into value-creating innovations. The growth of incubators has been rapid since the 1990s following the entrepreneurial strategies adopted by several countries and the advent of digital technology. According to (Lewis,2001): Support structures have indeed become a popular economic development tool to promote the creation of new technology-intensive businesses [2].

As the concept of incubation is a recent phenomenon and remains underdeveloped, we have raised this scarcity of studies on entrepreneurial incubation in general, and the incubation relationship leading to innovation in the Moroccan context in particular, as well as to offer significant

advice to the growing number of practitioners in the field.

In this wake, this article intends to contribute to identify the stakes of the entrepreneurial support ecosystem in incubation structures in Morocco, by presenting the state of play of incubation structures and innovation, giving the reader a global understanding of the phenomenon and its stakes, and to stimulate his reflections on what is at stake in an incubation relationship, based on a set of managerial and organisational practices between the incubator and the incubated for an innovative creation. Thus, the main question around which this paper is articulated is the following: how does incubation contribute to improve the innovation created between the incubator and the incubated?

In order to answer this question, this research is based on a qualitative study conducted among incubators and incubates. The objective of this study is to describe the incubation relationship and to identify that innovation is a real outcome of this relationship. The methodology used is that of a multiple case study. Six cases are presented in the framework of this exploratory study. A content analysis was carried out taking into account the semi-structured interviews. The interpretative positioning adopted aims to understand how the incubation relationship can lead to innovation.

In a first part, we will present an analysis of the theorems on entrepreneurial incubation as a catalyst for innovation. In



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a second part, we will present our empirical study based on four incubators (Technopark, Inma, Espace Bidaya, CIIE) and two incubated start-ups (Car sab and Granéco) which will be presented in detail in order to give a clearer picture of relationship incubation in Morocco.

II.LITERATURE REVIEW

Evolution of Business Incubation:

Innovation: Antagonism or Lever of Born

Organisations?

... And life has so well integrated its own antagonism that it carries death constantly and necessarily within it. (Edgar,2012). [3] For Edgar, the term antagonism means disintegration. In our context, anti-organisation is part of the organisation, in so far as the company goes through a phase of rupture sooner or later.

Previous research has always insisted that organisation is the quest for certainty, whereas innovation and change are born and flourish in uncertainty. Organising means ordering, standardising and codifying the functioning of a company in routines and procedures in order to achieve the objectives of reliability and efficiency, and innovating means disorganising and destroying in order to rebuild new basics. In this sense, it is difficult to reconcile between organisation and innovation, where the latter is the antagonism of the organisation, which can destroy the company's key skills, leading to increased disorder and uncertainty.

It is clear that reconciling organisation and innovation is difficult but not impossible, March's studies have shown that small and newer enterprises are characterised by ambidextrous organisations than large and mature ones, since they are capable of producing breakthrough innovations while preserving and exploiting existing resources and skills. According to (Raisch and Birkinshaw, 2008); ambidextrous organisation is defined as the ability of the organisation to be both effective in managing the current demands

of its business, while simultaneously being adaptive to changes in the environment. [4]

The organisational paths taken to instil entrepreneurial dynamics take various forms which have in common the flexibility and transversality of teams organised as "internal start-ups" (Silberzahn et al. 2007). The start-up either comes by (exnihilation, by incubation or by swarming) is conscious and adaptive to changes throughout the process. In entrepreneurial dynamics, the emergence phase (action situation) is the hidden knot of change and the dilemma between exploitation and exploration for the entrepreneur, it is the transition from the entrepreneurial project to the business project in which his or her thinking should be cognitive and affective, endowed with awareness, imagination, invention, for the adoption and diffusion of innovation. For Drucker, this perism of innovation constitutes the specific function of entrepreneurship, and for Stevens, it is one of the essential factors of organisational performance.

Based on a longitudinal study of an ambidextrous innovation organisation form based on start-ups, among the results drawn from this study are; these organisations can take various forms, what characterises these forms of organisations is their strong autonomy and their specificity of management that can generate exploration while mobilising internal resources. (Brion and Garel, 2017).

Entrepreneurs Diversity:

The field of entrepreneurship is very diverse, it is viewed from several angles, as (Gartner, 1985) pointed out: Entrepreneurship is seen as a complex and multidimensional phenomenon.[5] This complexity can be explained by the diversity of entrepreneurs.

In the entrepreneurship literature, there are several types of entrepreneurs based on a set of criteria related to their behaviour. In this work we present the 3 types of entrepreneurs that make up the authors' genesis in terms of their degree of importance in detecting and selecting the right entrepreneurs.



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Smith is one of the first to present a typology of entrepreneurs based on an empirical study of two basic types of entrepreneurs (artisan and opportunistic): the artisan entrepreneur is so different from the opportunistic entrepreneur. The first corresponds to the PIC entrepreneur (sustainability, independence, growth) with a paternalistic attitude, and to be wary of shortterm growth to ensure the sustainability of his business in the long term, in the Moroccan context this type of entrepreneur is more often a family entrepreneur, for him the activity is seen as a wealth to be inherited. On the other hand, the second corresponds to the CAP entrepreneur (growth, autonomy, sustainability) is more flexible between management and control thanks to his more diversified experiences and his higher level of education than the previous one. He has the capacity to innovate and the willingness to take a risk because the essential thing for him is to have growth in the short term. This comparison was well refined by Hirigoyen, who emphasised the contribution of the family entrepreneur as owner-manager to the sustainability of his business, insofar as this dimension of a family business has integrated several aspects: familiarity, emotions, values, culture and kinship. The latter moderates' self-interest and the conflicts it can cause because it translates into loyalty and commitment to the family and the business. For example, the need to monitor the behaviour of a family member is reduced, because communication and cooperation are facilitated by intimate knowledge.

Nothing happens from an exnihilo, before being a project leader, he is a bearer of knowledge on which to capitalise to innovate: The innovative entrepreneur is the foundation on which everything rests. The literature on the capacity for innovation is based on a triangle of three characteristics of the innovative entrepreneur: the degree of training, area of expertise and network. For (Schumpeter,1935); the innovative entrepreneur is the driving force behind economic development because the innovative product

or new means of production stimulates existing firms in terms of competition. [6] According to the Schumpeterian definition, the innovative entrepreneur is seen as a revolutionary, capable of adapting to change by listening carefully to market demands and increasing the company's overall productivity.[7]

The diversity of entrepreneurs is very useful and interesting to know in the field of entrepreneurship, insofar as it could lead us to understand the nature of the relationship existing between a type and his subject, in a clearer way is between a project leader and his project, it is precisely the degree of commitment of an entrepreneur in the success or failure of his project. In this sense, the success of the entrepreneurial approach depends first and foremost on the intention and degree of motivation of the entrepreneur.

Much research has shown that entrepreneurs who take the initiative to start their businesses voluntarily have a better chance of success than those who have been forced to do so; this distinction places the motivated entrepreneur at the centre of the study; a motivated entrepreneur makes more sacrifices for the sustainability of his or her business. This view is in line with the theory of entrepreneurial motivation; according to (Winter, 1994); the motivation of the entrepreneur is the positioning of his supply system, which are the two basic conditions for any entrepreneurial project. The young company can resist to perpetuate during the first 3 to 5 years if the support is based on a cultural shaping, which goes through a professional dimension with partners from the economic world: (expert, chamber of commerce, creators' club, consultants, chartered accountants, incubators, etc.) who include their actions in the learning process, relating to the management of administrative obstacles to business creation, to the progressive internalization of key functions in view of strategic positioning (Bruyat, 1994); (Koening, 1994); (Baumard, 1995); (Manfred, 1995). Cultural shaping integrates all the dimensions starting from a

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progressive structuring of the resource/competence couple made possible by the incubator which plays the role of information and training broker.

Incubators diversity:

The definition of the word incubator has evolved in line with the transformation of the incubation offer over the last 30 years. According to (Cooper,1985), the incubator is seen as an organisation or environment that influences, upstream of the business creation process, the skills and motivations of the entrepreneur. [8]. It provides ante-creation support to facilitate the start-up of new businesses. The aim is to train creators in their future profession and enable them to set up realistic projects (Cullière, 2003).

The business incubator provides space, shared office services and assistance in developing business in an environment conducive to new business creation, survival and growth. (El ouazzani, 2016). Incubator models have evolved and their configurations vary considerably, as they are very sensitive to local environmental conditions and the specificities of their territory. (Shandra, 2017). [9].

The following table presents the different types of incubators, according to the service offered, the type of project targeted but with a common objective which is the strengthening of the ecosystem of entrepreneurial support:

Table 1: diversity incubators.

Incubators	incubation	Mission
	period	
Economic	Medium/	Job creation
development	long	on the specific
incubator		area
Technological	Medium/long	sustaining the
incubator		development
		of start-ups
		with a high
		technological
		impact

Academic	Short period	to valorise and
incubator		commercialise
		scientific
		research
Social	Medium/long	promoting
incubator		social
		innovation of
		cooperatives
		and start-ups
Private	Short period	speeding up
incubator		business start-
		ups

The first case presents the economic development incubators as their name indicates is for non-profit purposes, as they target projects that bring an economic relevance to territorial development; that contribute to the creation of employment and the reintegration of disadvantaged people in a specific geographical area. (Von Zedtwiz and Grimald,2006) have confirmed that economic development incubators are a tool for promoting the regional economy and creating jobs in the territory. [10]. They rely on public funds and help project leaders upstream and downstream of their project (intervention phase) by offering them a mixed range of services.

The second type, (Barbero & al, 2012) aim to encourage the emergence of technological projects. They are particularly interested in innovative projects with high technological growth potential, they offer an important office automation service such as (fax, emailing, secretarial services...), their mission is the sustainability of this type of project, which is why they intervene mainly after the creation of the project.

The third type of academic incubators aims at technology transfer and facilitating access to academic networks (Grimaldi and Grandi, 2005). According to the literature, the university incubator is seen as a tool for the valorisation of research through the creation of innovative companies, has the mission to incubate

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innovative project leaders for 2 years at the creation of their innovative companies, from which during this period the entrepreneur benefits from acquiring knowledge and know-how for future autonomous management, as well as advice in drawing up the business plan and access to real estate (conference rooms, meeting rooms, offices, etc.), and access to financial resources such as business angels, venture capital companies, etc.

Social incubators are part of social entrepreneurship stemming from the social and solidarity economy, they integrate people in difficulty by giving advice on management, finance as well as tax and legal advice etc. They have for a social public interest and for the emergence of social innovation.

And the last type of private incubators that participate in the acceleration and security of business start-ups since they intervene before and after the creation, this type of incubators are completely different from other incubators in their purpose since they are for profit and seek to invest in projects for their own interest, particularly the achievement of a short-term financial gain.

incubators in a strategic approach:

Captions The literature on the strategic management of incubators has recently focused on individual strategies (specialisation or diversification) which depend strongly on their strategic purpose; Many researchers such as (Grimaldi & Grandi, 2005); (Alerts et al.,(2007); (Schwartz,2008) & (Hornych, 2010) recommend focusing on the specialisation of the services offered by the incubator and limiting the number of targeted sectors without proving empirically that the strategy of specialisation is more efficient than the strategy of diversification.[11]

The strategy of specialisation (specialised incubators) consists in concentrating on a specific sector of activity, or other complementary sectors, hence the selection of projects from their sector, which enables them to develop their knowledge and services

proposed more precise and focused on the sector and to improve the image of the incubated companies. However, this strong focus can create a negative working climate by building boundaries between the incubator and the incubated under the mistrust of sharing information related to the specific sector of activity. A strong specialisation of the incubation structure leads to a strong rigidity of the management team.

The strategy of diversification (diversified incubators) consists for the incubator to carry out its activity in other different fields, i.e. to widen the field of action in all sectors of activity, which leads to being in a situation of competition even if with its partners who are becoming more and more cooperators, and which enables it to gain a competitive advantage through its more diversified services offered, which gives it a profile that is different from other incubators perceived by the incubator, hence the choice of this strategy, and this was confirmed by (Vanderstraeten, 2013) based on studies carried out in the United Kingdom and Belgium shows that many incubators choose the diversification strategy.[12]

Incubators create collaborative links with other actors in the ecosystem such as: public authorities (funders), project leaders (clients), and other incubators (in cooperation, competition, or both in cooperation): incubators can compete on certain activities for several reasons, in particular to obtain public funding, and they cooperate with each other on other activities to benefit from the skills of others, for the complementarity of resources by developing a cooperative behaviour in favour of the supported projects. The increase in the number of cooperative incubators stimulates a high degree of competition between them because of the decrease in the financial resources they have to share between them, this competition can lead to a lack of clarity in the offer of support explained by the divergence of strategic objectives. (Chabaud, 2004) underlines that there is competition between public and

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private incubators. On the other hand, the cooperation between the two types of private and public incubators makes it easy to agree on common objectives that are supposed to serve the needs of the projects, where the private incubator benefits from the security and competence of the public incubator, whereas the public incubator can easily access the core business of the private incubator and benefit from it in the rapid acceleration and implementation of the supported projects.

Incubation Process:

Incubation is understood as a process containing three phases from awareness raising to post-incubation. We remind you that the support process differs from one incubator to another because of their diversity and that of the entrepreneurs:

Pre-incubation: this phase includes awareness-raising, selection and training; awareness-raising according to Fayolle aims to present entrepreneurship as a broadening of possible choices and as a stage in the career. It is a key and fundamental step that should not be skipped.

The selection is made on the basis of several tools and the evaluation of criteria related to the study of the entrepreneur or entrepreneurial team on the one hand, and the study of the entrepreneurial activity cited and described in the business plan on the other: the first evaluation concerns the analysis of his/her experiences, characteristics and behaviour corresponding to the degree of his/her managerial capacity and thus his/her level of education. While the second evaluation concerns precisely the study of the entrepreneurial activity, i.e. the characteristics of the product or service, the market in which the enterprise is going to develop, the strategic approach, etc., the second evaluation concerns the study of the entrepreneurial activity, i.e. the characteristics of the product or service, the market in which the enterprise is going to develop, the strategic approach, etc., etc.

The training aims to develop a certain number of technical skills and personal behaviour in the incubated companies: technical skills such as drawing up the business plan, negotiating with financial backers, and personal behaviour such as searching for and detecting business opportunities, respecting commitments and taking the initiative.

Incubation: this phase is the crux of the process, the most important and most complex, it is the one that determines the degree of commitment of the two actors - the incubator and the incubated and thus the degree of success of the project. The incubation period generally varies according to the type of project and the state of progress of the project and depends on its maturity. During the support phase, the incubator is always available to the project leader, offering him/her better guidance and an efficient development of the business plan. It plays a crucial role because it is the bridge between different networks to bring value to its entrepreneur. It is therefore the importance of a unique relationship; each project leader is personally assigned a business manager when he or she enters the incubator, who will follow him or her throughout the incubation period. (Didier, 2006). [13]. After the coaching and support, a selection of the best projects is made with the aim of bringing the project leaders of these best projects closer to potential donors through their participation in national or international competitions. As the MIPA competition (Morrocan innovation project awards) is set up to select the three best projects, the candidates of this competition present their projects before a jury chaired by the Minister of Industry, Commerce and New Technologies, the other members are scientific research managers, seed funds and associations supporting creation.

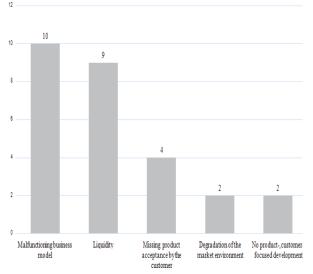
Post-incubation: Schwartz defines postgraduation as the phase when the incubated ventures have completed their incubation period; Bizzotto defines post-incubation when holding companies graduate into the wider business community. Studies

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have shown that the period following graduation has a high risk of failure. (Kerschenbauer and Schwartz, 2016). [14]. It is clear that business creation is a risky process. According to several empirical studies, about half of new companies disappear after 5 years of their creation (Aldrich & Ruef, 2006); (Bates & Nucci, 1990). [15]. From this perspective, incubation is of great importance to foster the success of the enterprises created.

According to this concept of risk of failure, the question arises in our minds: can the business succeed and grow after the incubation period? This question is well characterised in the following figure:

Figure 1: Most frequent reasons for closing down



Two answers to the question are only the result of previous research, the first is to extend the post-incubation phase: i.e. the intervention of the incubator in the post-creation phase, the second is to integrate a new control system to improve performance and have a sustainable growth rate: Grasser underlines that the first 3 years after incubation are critical for start-ups, the average incubation period is one and a half years, so to go beyond the risky period of 3 years and complete 4 years of the company's life is 2 and a half years of post-incubation. A lot of research confirms that the companies that survive are those that exceed two and a half years of post-incubation, and those that fail pass less than two and a half years of

Web: www.lcjstem.com | DOI: https://doi.org/10.47150 post-incubation, so the total incubation period is 4 years to ensure the survival of the company. On the other hand, other authors have focused on the implementation of the "MCS" management control system in this phase. MCS is understood as a set of methods and practices to maintain or change organisational activities. (Simon, 2016).[14] Simon gives importance to one type of this system is the lever of control which comprises 4 specific sub-systems based on 4 concepts: fundamental values controlled by a belief system, critical performance variables controlled by a diagnostic control system, risks to be avoided controlled by an interactive control system, so MCS is the efficient tool to reduce risk after incubation.

Incubation Relationship in A Proactive Approach:

Innovation is the result of a more or less long process called the incubation process. This process can be assessed proactively by both actors (the incubator and the incubated), in terms of commitment and legitimacy. Strategic legitimacy is part of the proactive approach and is based on 4 axes of the entrepreneurial process model of (Gartner, 1985): the individual, the organisation, the environment and the process. In this context, the neo-entrepreneur must succeed in increasing his credibility, give a secure image and stabilise his position on the market. This is why (Zimmerman and Zeitz, 2002) consider legitimacy as a crucial resource, a necessary gateway to other resources. Legitimacy was then understood as a process of creating synergies between the entrepreneur and his environment, whereas the incubator can contribute to this process as an intermediary that refers to the capacity of the startup incubated to survive and innovate.[16].

Opting for incubation by taking innovation at source means increasing the pace of innovation in the economy in general. The mortality rate of start-ups is higher due to the lack of credibility which reduces the visibility of the young company on the market, due to

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the scarcity of resources and the lack of experience. The vital issue for the entrepreneur is the construction of credibility and legitimacy which enables him to bypass the failure of market players and build up a capital of confidence to innovate. When incubators take entrepreneurs under their wings, the whole economy benefits by boosting the entrepreneurial momentum. The game for them is also a win-win partnership, where they benefit from the energy and creativity of start-ups, which are better suited to producing breakthrough

Innovation based on Incubation: From a Project to an Innovative Start Up:

innovations since they are not prey to the dilemma of exploitation versus exploration, so it is a win-win game.

Innovation through incubation is often accompanied by the creation of a financial structure that takes and manages the participations in start-ups. These structures generally take the form of a venture capital company such as those existing within the technopark, the reason for being among the best incubators in Morocco today. The capital endowment of these structures depends on the size of the incubation structure, its pace of innovation and the balance between innovation activities within the structure or innovation by alliance (cooperation or cooperation between incubators) as an example the cooperation between emerging business factory and the INMA incubator, or innovation by incubation which our object is articulated. According to (ferrary, 2006); an investment in the capital of a company in creation corresponds to an uncertain investment. [17]. Therefore, the decision to provide a dedicated structure with capital whose profitability is not guaranteed is a very important strategic choice.

The development of an innovative start-up goes through four fundamental phases; each phase presents its financing needs, particularly in the seed phase:

The seed phase: instead of raising funds from a very small group of professional investors,

Web: www.lcjstem.com | DOI: https://doi.org/10.47150 entrepreneurs try to obtain them from a very large public, with each individual contributing a very small amount. The financiers, the crowdfunders, may also, in some cases, participate in strategic decisions and even have voting rights. More specifically, the phenomenon of crowdfunding embodies the combination of two concepts: crowdsourcing and microfinance (Harrison, 2013). Crowdsourcing refers to financial and social intermediation through small loans to economically active borrowers who are too poor to access more conventional sources of finance (Ledgerwood, 1998). During this stage, the enterprise is not yet active on the market and does not manage any turnover, the risk for investors is very high and financing is very difficult to obtain, so entrepreneurs rely on funds from relatives, friends, fools... who are likely to cover the necessary expenses such as an initial business plan, market research etc. (Ledgerwood, 1998). generally, these funds are supplemented by business angels' funds or public aid; they take the form of tax aid, direct subsidies (prizes for participation in competitions for the creation of innovative businesses, or non-refundable interestfree loans in the event of failure).

The initial development phase: at this stage there is a finished product ready to be marketed, often on a small scale to confirm its economic viability, it is difficult to predict the commercial success of the project. Innovative start-ups may involve specialised public investors or a few private players, particularly business angels, who bring capital, experience, network and time.

The growth phase: the company must manage the increase in its activity and sales. In order to maintain a pace of growth, it needs additional funds to develop production and distribution capacities. The intervention of a venture capitalist can be essential, both in terms of financing and in terms of support and advice from the management team.

The maturity phase: at this stage, the company is well established and is entering a situation of full

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development. It has easier access to bank loans and can open up its capital via an IPO.

III.METHODOLOGY

Our objective through this article is to explore the specificities of incubators and incubated entrepreneurs in Morocco. We will try to shed light on the relationship between incubation and innovation in order to empirically answer our main question. The phenomenon of incubation as a concept little exploited in the literature, we will base ourselves on qualitative research which, as Blumberg, Cooper and Schindler, (2005) point out, allows us to shed light on and understand the characteristics and nature of a phenomenon.

Material and Method:

Our qualitative study is based on semidirective interviews using an interview guide with the managers of incubation structures and incubated project leaders. The size of our sample is not large due to the recent birth of new types of incubators in the country. We carried out 6 interviews with a duration of between 38 minutes and one hour depending on how the questions were explained to the interviewees so that they understood them in the same way. The figures below present the studied cases of the two actors (incubators and incubated):

Figure 2: the diversity of incubators and their characteristics in Morocco

studied	Incubation	mission
cases	Period	
Technopark	12-22	sustaining
	months	companies with
		high technological
		potential
Bidaya	1 year	support companies
space		that have a social

		and environmental
		impact
UPM	1 year	promote innovation
OTW	1 year	-
		and development of
		entrepreneurial
		activities
Inma	18 months	The university
		incubates doctoral
		students and
		teacher-researchers
		who wish to set up
		their own
		companies by
		exploiting the
		results of their
		research.

Our aim is to explain the relationship between the two actors, the reason that led us to contact several incubated start-ups, and among them two who answered us: CARSAB was incubated by the INMA centre and the other GRANECO was incubated by Bidaya space:

Figure 3: Characteristics of startups incubated

Identification	Startup	Startup incubated
	incubated	by bidaya space
	by inma	
Compagny	car sab	graneco
name		
Date of	2017	2016
creation		
Capital	100000	milion
Sector of	industry	social
activity		entrepreneurship
Employees	17	less than 10
		persons

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Technopark of Casablanca created in 2001 is a cluster that brings together a group of companies operating in the NTI, green-tech and cultural industry. it subsidises part of the rents of start-ups who pay 5 euros per m2 for 18 months, allowing them to concentrate on their business. technopark has so far supported 900 companies, not only start-ups, smes and also large companies. moreover, their financial equilibrium is thanks to these companies paying higher rents, which allows them to subsidise small start-ups.

espace bidaya is a social and green-tech incubator established in casablanca since 2015. it has so far supported about twenty social and environmental start-ups, and specialises in incubating for one-year innovative start-ups with a high social and/or environmental impact.

ciie (centre for innovation and entrepreneurial incubation) was created in 2017 to promote innovation and develop entrepreneurial activities with a profitmaking aim, hence the integration of projects that bring economic relevance.

inma (academic incubation centre of marrakech) was created in 2001 for a non-profit purpose, which is the valorisation of scientific and technical research, it is also a member in the moroccan incubation and spin-off network rmie.

carsab is the start-up incubated by inma, created in 2017 by omar benjelloun in the building and public works sector with 17 employees, it is specialised in the construction of tiles for walls and floors.

granéco is the start-up incubated by espace bidaya, created in 2016 by mohammed hafid and kanza joulanar, it operates in the social entrepreneurship sector with less than 10 employees, specialising in the collection and recovery of waste.

the results processed and analysed will be presented under 3 main sections: the first will focus on the incubation process within each incubator structure. the second section will focus on the analysis and description of the incubation relationship between the incubator and the incubated. in the third section a focus will be made on the creation process of each incubated start-up.

IV. DATA ANALYSIS & RESULTS

Incubation process:

The pre-incubation:

Awareness-raising: All the incubators share the same opinion of organising events at the awareness level. Mr. Bekouchi (head of communication and support at Technopark) replied when he asked: "at events and conferences, young people tend to see clearly the achievements of the exhibiting company, which motivates them to create their own business". He joined Ms. Nakachi in charge of accompanying Espace Bidaya with several formats of events organised within it: "bidaya talk animated by success stories of social entrepreneurship, bidaya makers animated by start-ups who will expose their manufacture or product to the other incubated, and bidaya projection animated by a person well known in social entrepreneurship, and ask her to speak to a film or report around a subject, the goal is to push young people to talk and discuss honestly a lot". While awareness raising at the academic incubators, INMA and CIIE is led by injaz elmaghreb which is an association that deals with university entrepreneurship, the goal is not only to call for projects, but to encourage students to have a vision on entrepreneurial dynamics.

The selection: Technopark is espace biadya focuses on the nature of the project and whether it carries a technological innovation for Technopark, a social and/or environmental innovation for Espace bidaya. While the 2 incubators INMA and CIIE have taken as a selection criterion: the project initiator, his motivation, and his strong will, with a precision of Ali Moujtahid (CIIE Incubator Director): "we base ourselves on three aspects, the 1st is the link between the project initiator and the project itself, the 2nd is the



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motivation of the person at the level of perseverance, the 3rd is the economic relevance of the project".

Omar Benjelloun and his project were selected because they meet the criteria set by INMA, notably motivation and specific skills that refer to his higher education and more technical experience.

Training: all the incubators offer training that is transversal to their incubates in different areas (management, accounting, marketing...), but there are more specific training courses depending on the type of project, and also training courses that are only offered at the request of the incubates, especially when it is a more technical project that requires experts and trainers in the field. The objective remains the same for all the incubators is to train them incubates to write their business plan.

The incubation:

Coaching and support: Technopark provides its incubators with a furnished and equipped office space (desks with laptops, servers, internet...), and intensive support (mentoring by a qualified team, networking...), while Espace bidaya in its support is based on communication through the organisation of meetings within the community: Bidaya breakfast and bidaya after work. The CIIE's incubation director is always ready to listen and offers personalised support as he responds to the specific needs of each carrier, except for technical projects which are outside the CIIE's speciality as this centre was recently created. Technical projects are at the heart of the INMA centre's business. The holder of a technical project must sign a confidentiality charter with the incubator, and must file a patent to protect himself more effectively, so that the process can take its normal course. Benjelloun stated that his presence at the incubator was continuous throughout the incubation phase.

The selection of the best projects: the participation of the incubates in the competitions is a fundamental step in each incubator where the objective is both to detect the reliability of the project, and also

for the winning carriers of this competition to obtain start-up assistance.

The post-incubation:

All incubators share the same opinion that failure will be caused by the entrepreneur himself, by his abandonment or mismanagement. Mr. Bekouchi linked the failure with the bad management of the entrepreneur where Technopark provides them with all the necessary means to grow, while Espace bidaya and INMA suffer from a high rate of abandonment of entrepreneurs.

Relationship incubation:

Among the best cases that opt for cooperation strategies with other actors dedicated accommodation is the INMA centre, which is part of a very rich support ecosystem in cooperation at the international level with European and Japanese universities and at the regional level with EBF (emerging business factory). The idea of building tiles using sand and other materials is an idea that is not very complex to understand, justified by Mr. Benjelloun's skills and experience in this field, and by the numerous researches that have been carried out beforehand, which makes the idea attractive and accepted by INMA, and also his motivation to found his own company since childhood under the influence of the success stories in his family world. In this type of project, INMA offers all the necessary means to their students and, above all, an important service focused on laboratories managed by experts specialising in this field, and teachers. All these means are strongly contributed to the success of his project, so it is a technical innovation through INMA's incubation under the R&D alliance.

The idea of transforming coffee grounds into small combustible logs to combat deforestation (the coffee grounds are dried and mixed with different types of binders, such as olive crickets or sap) and then compacted into a small log. The aim of this project is to meet the needs of the environment through waste

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on the network to complete the expenses necessary for development.

management and deforestation. It is therefore an environmental innovation through the incubation of bidaya space which targets this kind of project, and which positively impacts our society and our environment. It is also a social innovation through the improvement of the living conditions of the populations prey to the cold and harsh winters of the kingdom's mountainous regions, by offering them the logs produced, and also by integrating upstream cafés and restaurants as suppliers of coffee grounds and organic waste, and downstream small industrialists, hamams, spas as customers for the purchase of waste transformed into fertilisers.

Innovation based on incubationrelationship: Carsab and Granéco

The seed phase: the two academic incubators rely on public funds and then to be supplemented by private funds. Mr.Khaladi (Incubation Director of the INMA centre) specified that he encourages his incubates to prepare their projects well, to present them before the CGC committee and to convince it to obtain the guarantee of a bank loan which is generally obtained from the popular bank. Mr. Benjelloun confirmed to us that the quality of the project and its leader made the difference in obtaining a fund of 230 000 dh. While Espace bidaya as an association relies on the foundation of financial resources (IGAs: income generating associations). And Technopark provides its incubators with premises at a low cost of 5 euros per m2 for 18 months.

The initial development phase: the mission of all the incubators ends as soon as the project is set up, except Technopark, which is considered an incubator, is characterised by a very long process that also takes place in the post-creation phase. Mr. Bekouchi explained that MNF is part of Technopark's ecosystem as a financier set up in 2013 and has a fund of 100MDH. 70% of the MNF (Maroc Numeric fund) endowment has been used to participate in the capital of the various start-ups. The two start-ups incubated in this phase rely

The growth phase: Mr. Bekouchi gave us 2 examples of his incubated companies that have grown within the Technopark: The example of two engineers who were experts in cyber-security and whose ambition was to set up in the Technopark had to literally fight for a year to obtain 2MDH from the MNF and another 2 million from the Dayam funds (Saham group). They launched their business and moved to the Technopark in 2010, and in two years they multiplied their turnover by 5. The start-up is ranked among the most promising companies in the African region.

Most start-ups stop their incubation period as soon as the project is set up or extend it until growth; Carsab in this phase is looking for a partner for the distribution and marketing of the product. At Granéco production is done in a very artisanal way, but Mr. Hafid is looking for a more automated production line to make larger volumes.

The maturity phase: start-ups are very far from this stage.

V. DISCUSSION

The incubators weigh a heavy weight in the Moroccan economy, notably in the creation of employment on the territory, they present a great diversity in all their services offered, and the targeted projects; the results obtained have enabled us to clarify the dynamic process of incubation leading to innovation, as well as to distinguish the mission and role of each incubator. The interpretation of our results shows that: Technoparc is an example of a technological incubator that targets projects with a high potential for technological growth. According to Mr. BEKOUCHI's speech, we found that Technoparc is so different from other incubators, its intervention appears more often after the creation of the start-up, with the services it offers: rent-free premises, offices, working management space for managers of large companies,



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etc. According to (Barbero & al, 2012), this type of incubator "aims to encourage the emergence of technological projects. They are particularly interested in innovative projects with high technological growth potential, they offer an important office service such as (fax, mailing, secretarial services, etc.), their mission is the sustainability of this type of project, which is why they are mainly involved after the creation of the business. Whereas Espace bidaya is a type of social incubator, since it integrates projects that have a social and/or environmental impact. According to (Aernoudt, 2004); social incubators aim at the reintegration of people in difficulty and the emergence of social innovation, during our discussion, Ms. (Aernoudt, 2004), said; social incubators aim at the reintegration of people in difficulty and the emergence of social innovation. NAKKACHI showed us by an example that innovation is not necessarily always technological and that there is a social innovation such as SAFE EAT which is a small restaurant founded by a single woman and which has integrated 7 women (housewives) for the preparation of cakes and cooked dishes in their homes, the objective is the creation of employment for this type of women, and also to meet the needs of society, SAFE EAT is looking for a partner in particular with cooperatives in favour of social entrepreneurship. The third and fourth cases are of the type of academic incubators (CIIE and INMA), which valorise and commercialise academic research, and present a range of services focused on research laboratories.

Academic incubators aim at technology transfer and facilitating access to academic networks. (Grimaldi and Grandi, 2005). According to the speeches with the INMA incubator director and the CIIE director, the difference between them that we have retained is that INMA for a non-profit purpose, and even at the level of selection is based on the motivation and the initiator of the carrier, on the other hand CIIE is not only based on the carrier but also on the project, and if there is an economic relevance of the project, but in terms of

funding, both incubators rely on public funds obtained by winners (their winning incubates) of competitions managed by semi-public institutions or foundations. Thus, the training offered by INMA is very attractive to clients with more technical projects, with the help of technicians, experts and teachers, and before the incubation process takes off the carrier of a technical project must sign a confidentiality charter and file a patent to protect himself. However, CIIE does not have this kind of training because of the lack of skills in this field. On the other hand, all the incubators offer generalist training to perfect the dynamics of the business plan, and share the same opinion in terms of raising awareness by organising events to stimulate people's creative spirit, and that running your own business is so much better than a salaried position. And also to understand the entrepreneurial and business dynamics from the business leaders invited to tell their success stories. According to Fayolle and Al, (2005): "Awareness-raising aims to present entrepreneurship as a broadening of choices and as a step in a career".

Espace bidaya and CIIE are always ready to listen to their incubates throughout the incubation cycle, they have understood the support in the broad sense that takes place through transfers, exchanges, and learning based mutual listening. According (Saporta, 1994); it is better to help the entrepreneur to formulate his problem well rather than to provide him with a ready-made solution. It is advisable to use the support period to offer them learning situations built from their own experience and around their project, to help them understand that what is essential is less about the content of a training course, whatever its quality, but more about the development of a learning capacity. To this end, they have organised workshops and more frequent meetings to orient their incubated projects and to redirect them under highly personalised guidance. To select the best projects, the two incubators (INMA and CIIE) encourage their project leaders to take part in national and international competitions, in order to

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Web: www.lcjstem.com | DOI: https://doi.org/10.47150 evolutionary trend will certainly continue in the years to come and other incubators will see the light of day. Moreover, several internationally known support structures are today interested in Morocco as a platform for Africa with great potential.

Incubators need to capitalise on these initial experiences to design incubation models and processes adapted to the reality of innovative Moroccan entrepreneurs. In this sense, in addition to space and regular training, incubators need to focus more on developing the coaching skills of their teams, creating a network of mentors and experts capable of meeting the specific needs of the incubated, increasing their seed funds and linking them with investment funds.

Another aspect for the development of the support ecosystem in Morocco is linked to the coordination and collaboration between incubators for innovative creation. This can lead to the creation of synergies to accelerate the functioning of incubation processes. It is also recommended to work in complementarity with public bodies, coworking and innovation spaces and to build bridges with universities, in order to create a chain maximising the success of entrepreneurs and facilitating their situation of action.

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test the reliability of their projects, and also to stimulate their interests and their degree of motivation to follow the entrepreneurial approach. Public aid takes the form of tax assistance, direct subsidies (prizes participation in competitions for the creation of innovative enterprises) or non-refundable interest-free loans in the event of failure (C. Savignac, 2006). These grants provide project leaders with both financial and moral support. When the incubation period ends, the literature has shown that there is a high probability of risk of failure in the post-incubation phase, (Bizzotto, 2016) defines post-incubation when holding companies graduate into the wider business community. Studies have shown that the period following graduation has a high risk of failure. And in the field, the 4 incubators have confirmed to us that failure in this phase is highly probable depending on the availability of the holder, and that the quality of the entrepreneur largely depends on the success or failure of the business, where Technoparc asserted that it has all the necessary means to grow, and any failure would be due to the poor management of the entrepreneur, on the other hand Espace bidaya and INMA which suffer from the nonavailability of the entrepreneur and the high rate of abandonment. While CIIE has linked failure with the non-existent skills for the most technical projects. And this is the reason why today CIIE is looking for a partner, and to create a cooperation with an incubator which presents this type of skills in order to innovate and to give a good readability of support offer. Among the best cases that opt for cooperation strategies with other structures dedicated to accommodation, is the INMA centre, which is part of a very rich support ecosystem, particularly at the international level with European and Japanese universities, and at the regional level with emerging business factories.

VI. CONCLUSION

In conclusion, it is obvious that the support ecosystem in Morocco is gradually evolving. Benefiting from the rise of innovative start-ups, this



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REFERENCES

- [1] K. Messeghem, S. Sammut, D. Chabaud, C. Carrier, and R. Thurik, "L'accompagnement entrepreneurial, une industrie en quête de leviers de performance?," *Manag. Int.*, vol. 17, no. 3, p. 65, Sep. 2013, doi: 10.7202/1018267ar.
- [2] P. M. Vaaler and G. McNamara, "Are technology-intensive industries more dynamically competitive? No and yes," *Organ. Sci.*, vol. 21, no. 1, pp. 271–289, 2010, doi: 10.1287/orsc.1080.0392.
- [3] E. Morin, "Pour une crisologie," *Communications*, vol. 25, no. 1, pp. 149–163, 1976, doi: 10.3406/COMM.1976.1388.
- [4] S. Raisch, J. Birkinshaw, G. Probst, and M. L. Tushman, "Organizational ambidexterity: Balancing exploitation and exploration for sustained performance," *Organ. Sci.*, vol. 20, no. 4, pp. 685–695, Jul. 2009, doi: 10.1287/ORSC.1090.0428.
- [5] W. B. Gartner, "A conceptual framework for describing the phenomenon of New Venture Creation," in *Entrepreneurship* as Organizing: Selected Papers of William B. Gartner, vol. 10, no. 4, 2016, pp. 1–11.
- [6] K. Śledzik, "Schumpeter's View on Innovation and Entrepreneurship," SSRN Electron. J., May 2013, doi: 10.2139/ssrn.2257783.
- [7] J. Courvisanos, "Entrepreneurship and Innovation," in *Cycles*, *Crises and Innovation*, Singapore: Springer Singapore, 2013.
- [8] A. J. Ahmad and C. Thornberry, "On the structure of business incubators: de-coupling issues and the mis-alignment of managerial incentives," *J. Technol. Transf.*, vol. 43, no. 5, pp. 1190–1212, Dec. 2018, doi: 10.1007/s10961-016-9551-y.
- [9] R. Lalkaka, "Technology business incubators to help build an innovation-based economy," *J. Chang. Manag.*, vol. 3, no. 2, pp. 167–176, 2002, doi: 10.1080/714042533.
- [10] M. Madaleno, M. Nathan, H. Overman, and S. Waights, "Incubators, Accelerators and Regional Economic Development," *IZA Discuss. Pap.*, no. 11856, 2018, Accessed: Aug. 01, 2021. [Online]. Available: www.iza.org.
- [11] F. Kaulich, "Diversification vs . specialization as alternative strategies for economic development: Can we settle a debate by looking at the empirical evidence?," 2012.
- [12] J. Vanderstraeten, "Studies on the strategy and performance of business incubators," Universiteit Antwerpen, Faculteit Toegepaste Economische Wetenschappen, 2013.
- [13] M. S. S. Granados, "Characterization and analysis of business incubation systems in Costa Rica: The case of public universities," *Innovar*, vol. 29, no. 74, pp. 57–70, Oct. 2019, doi: 10.15446/innovar.v29n74.82061.
- [14] J. E. Kerschenbauer, R. Salinger, and D. Strametz, "Management Control Systems in Post-Incubation: An Investigation of Closed Down High-Technology Start-Ups," Int. J. Soc. Behav. Educ. Econ. Bus. Ind. Eng., vol. 10, no. 5, pp.

1586–1593, 2016, Accessed: Aug. 01, 2021. [Online]. Available:

- https://publications.waset.org/10004477/management-controlsystems-in-post-incubation-an-investigation-of-closed-downhigh-technology-start-ups.
- [15] J. Amankwah-Amoah, N. Boso, and I. Antwi-Agyei, "The Effects of Business Failure Experience on Successive Entrepreneurial Engagements: An Evolutionary Phase Model," Gr. Organ. Manag., vol. 43, no. 4, pp. 648–682, 2018, doi: 10.1177/1059601116643447.
- [16] M. D. Brito, J. Brunstein, and R. A. Amaro, "Education for Sustainability beyond the Classroom: Companies Born in University Incubators," *REGEPE - Rev. Empreendedorismo e Gestão Pequenas Empres.*, vol. 7, no. 2, pp. 01–30, Jun. 2018, doi: 10.14211/regepe.v7i2.676.
- [17] M. Jamal, "Theory of the Firm: Managerial Behavior, Agency Costs, and Capital Structure." Accessed: Aug. 01, 2021.

 [Online]. Available: https://www.academia.edu/1585652/Theory_of_the_Firm_Managerial_Behavior_Agency_Costs_and_Capital_Structure.

BIOGRAPHY



Maryam Elbahjaoui¹, Abdelaziz Elabjani²,
¹Cadi ayaad University, Marrakech, Morroco,
Bahjaoui20@gmail.com

²Cadi ayaad University Marrakech, Morroco,
aelabjani@gmail.com