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# Balancing Institutional and Agency Dominance in Entrepreneurial Ecosystems: A Conceptual Framework and A Case Study of Macao

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*Abstract:* A longitudinal study of entrepreneurial ecosystems (hereafter EE) and its evolution is important. Extending organizational-based ecosystem as a relationship building phenomenon in which all stakeholders continuously negotiate power (Pfeffer, 1992), this paper proposes a new conceptual framework to study EE longitudinally through the lens of the balance of power between institutional and agency dominance. The new conceptual framework has a 2 (Institutional dominance: high, low) x 2 (Agency dominance: high, low) configuration resulting in four scenarios of EE that are labeled as inertia, top-down, bottom-up, and co-creation. To illustrate the conceptual framework, five decades of historical and political events of Macao, to include change of sovereignty, are highlighted to depict the evolution of its EE in stages that can be labeled as inertia, bottom-up, and top-down. The new conceptual framework and the case study of Macao have managerial implications for policy makers and researchers.

*Keyword:* China, Sovereignty, Stakeholder Theory, Macao, Entrepreneurial Ecosystems

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## Introduction

IN PUTTING A POLITICAL LENS on this social-psychology approach to entrepreneurship (Jennings et al. 2013; Mack and Mayer 2015), researchers have informed us that whenever there are social interactions among people, there is a struggle for power or there is social influence in the making in order

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to establish legitimacy, expertise, or obedience (French and Raven 1959). Within even the most seemingly naïve, small group of people with a few members who volunteer to bake cookies for the homeless, there exists a negotiation of power among its members. Power negotiation is related to stakeholder theory. According to stakeholder theory, within the settings of any organization, there is always a need to identify who matters and who does not (Mitchell, Agle, and Wood 1997). Stakeholder theory mainly has three components: power, legitimacy, and urgency.

An entrepreneurial ecosystem (EE) is similar to an organization in a sense that its stakeholders continuously negotiate power. In fact, an ecosystem and the relationship building within it is a process for establishing, exercising, or exerting power (Pfeffer 1992). EE is defined as “...set of interconnected entrepreneurial actors, organizations, institutions, and processes” (Mason and Brown, 2014). Essentially, EE becomes a network of multiple organizations and individuals who are all stakeholders (Autio and Levie 2015). Especially within EE, there are two major forces of institutions and agents that function within a complex socio-economic structure. Within this complex structure, stakeholders need, similar to what French and Raven (1959) suggested, to exercise influence in order to establish legitimacy, expertise, or obedience. As EE researchers (e.g., Autio and Levie 2015; O’Connor, Stam, Sussan, and Audretsch 2017) have increasingly focused on the importance of individual actions, this paper argues that the study of EE needs to put agents parallel to institutions in order to simultaneously understand the interactions of the two forces. As an EE requires individual actions to extract the value from it (Autio and Levie 2015), this paper suggests that understanding the balance of power between agents and institutions will bring new knowledge to the workings of an EE.

To parsimoniously address the balance of power between two major groups of stakeholders: agents and institutions, this paper develops a new conceptual 2 (institutional dominance: high, low) x 2 (agency dominance: high, low) framework that depicts four scenarios of an EE. In order to validate the conceptual framework, the history of Macao and its EE development are used to illustrate the four scenarios of an EE. The stakeholder approach to investigate EE fills the urgent need to study EE from a social-psychology approach to entrepreneurship (Jennings et al. 2013; Mack and Mayer 2015) and, at the same time, fulfil the need for a longitudinal approach to study EE.

The rest of the paper begins with a brief review of EE literature and stakeholder theories leading to a new 2 (institutional dominance: high, low) x 2 (agency dominance: high, low) conceptual framework. Longitudinal data of agency activities and government policies in the past five decades in Macao follow to illustrate the framework. Finally, the paper concludes with managerial implications.

## **Literature Review**

### **Institutional Dominance**

In an EE, the power of institutions can be too much or too little. From an institution theory of entrepreneurship perspective, institutions are there to 'enable' agents. In other words, this is a top-down approach in which institutions are the gatekeepers of many of the resources to include economic policies that favor entrepreneurs (e.g., subsidies to startup, tax breaks to small businesses), providing education and training for entrepreneurial skills, establishing rules and regulations, creating technology and industrial parks to foster entrepreneurial activities, establishing joint efforts among university, industry, and government to develop innovations (Chinta and Sussan 2018). In this setting, the roles of the agents are to extract resources from institutions. While many of these top down institutional efforts have been successful, there are also examples that have not been successful (see a list of examples in Ács et al. 2016). In other words, this might be a classic failure example of the assumption of 'We build them, and they will come'.

In fact, some institutional actions have an adverse effect on entrepreneurship. In investigating eighteen Asian economies over a span of ten years, institutionalization was found to have an inverted relationship with informal (unregistered business) entrepreneurship (Autio and Fu 2015). In a 54-country longitudinal study, Levie and Autio (2011) found that labor entry and exit regulations reduce strategic entrepreneurial entry in countries where the rule of law is strong, suggesting that red tape and bureaucracy burden entrepreneurs (initially small size firms) with high compliance costs hampering entrepreneurial activities. A debate about the motivation for and effectiveness of public policies to encourage individuals to become entrepreneurs concluded that most Western public policies for entrepreneurship failed (Ács et al. 2016). The debate further illustrated how public policies aimed at stimulating entrepreneurship in order to create jobs and economic growth can backfire and end up wasting taxpayers' money. Altogether, this suggests that a top-down institutional dominance approach in an EE may not be optimal.

### **Agent Dominance**

An emerging stream of literature that favors organic growth of EE focuses on agents and views them as the fulcrum of EE (e.g., O'Connor et al. 2018). Essentially, it is the agents who possess know-how, network, and knowledge and who undertake entrepreneurial activities and become major actors in EE. These actors become a necessary condition within an EE framework.

Agents or talents that contribute to an EE can come from all directions. Agents can play a dominant role by convincing stakeholders (e.g., government, customers) to legitimize their new venture and establish new industry standards. The entrepreneur of Wakefield Seafood in Alaska initiated many of the industry regulations on technology innovation adoption (e.g., radar fishing), crafted standards on quality control (king crab), and assisted in negotiating international fishing agreements between the U.S. and other countries (Alvarez, Young and Wolley 2015). Wakefield Seafood was able to co-create with institutional players successfully because they built shared industry beliefs and meanings with competitors and stakeholders who do not benefit financially in the process (Alvarez et al. 2015: 108).

Increasingly in the digital economy, Sussan and Ács (2017) argued that digital entrepreneurs have the capability and play a dominant role to shape institutions so that new industry standards, government regulations, and even policies are being shaped by agents in the digital entrepreneurial ecosystem. These authors cited examples such as Uber that has been challenging local regulations worldwide and, to some extent, rewriting some of the labor laws globally.

### **Interactions, Community, and Co-creation**

Institutions and agents interact. In investigating the evolution of a US city as an EE, Mack and Mayer (2016) interviewed various stakeholders (i.e., government officials, entrepreneurs, and others) about their perceptions of government infrastructure, networks, resources, and culture. The results of their study found that potential entrepreneurs in Phoenix were unable to find appropriate mentors or locate the invisible networks that support entrepreneurs. A sociological approach that views entrepreneurs and institutional actors as residing in a community may be a better context to capture more detailed interactions among stakeholders. A community is defined as “enduring, but not explicitly instrumental, relationships among actors, often with geographic bounds...in the current era...communities include not only local and regional units....as well as transnational and global communities” (Jennings et al. 2013: 2).

In a vibrant entrepreneurial community, co-creation, a process that emphasizes the involvement of and interaction among multiple actors, such as business, government, academia, and entrepreneurs who work collaboratively to achieve a certain goal (Saravathy and Venkataraman 2011), can take place. In fact, entrepreneurial opportunities are often co-created by entrepreneurs and their stakeholders (Read, Dew, Saravathy, Song, and Wiltbank 2009) and such a co-creation process is explicitly implemented by the most experienced

entrepreneurs (Sarasvathy 2008). Furthermore, markets and EE can be co-created to foster cluster emergence (Pitelis 2012).

## Conceptual framework

Power relations are pervasive in an ecosystem. In EE building, both institution-driven and agent-driven approaches are valid. From the policy makers' perspective, EE is about how institutions can be deployed to correct market failure and system failure. In other words, policy makers are constantly trying to solve the problem of 'you build them, and they don't come'. From a practitioner/entrepreneur perspective, EE is about how entrepreneurs find opportunities and leverage their network to interact with institutions to disrupt *status quo* and create a new market for their products or services. As institutions and agents, the two major stakeholders in EE, co-exist in a dynamic ecosystem, there is a continual need to balance their power relations. Sometimes, institutions dominate the EE building process, whereas, sometimes, agents dominate. Figure 1 presented below suggests that there is a combination of institutional dominance and agency dominance resulting in four EE scenarios. Each of the cells in Figure 1 can be applicable to a town/city/region/nation or can be used to describe the evolution of the EE of a place over time.

**Figure 1. Typology of Entrepreneurial Ecosystems**



*Source: Author's Own Configuration*

Cell 1 represents an EE that is in the state of inertia. In this cell, entrepreneurship is both low in institutional support and lacks agents' presence. In other words, no knowledge, no money, no talent, no vision, and nothing happens. Examples include many rural places or ghost towns in the U.S.

Cell 2 represents an EE that is mainly top-down institution dominant. This EE usually has rules already set up, with relatively high formal establishment

but with low agents' energy. Some of the entrepreneurs in this cell may have been 'employed' entrepreneurs who are temporarily benefiting from fixed salaries from some projects from government bodies or NGOs. An example of this type of EE will be Phoenix, AZ, (Mack and Mayer 2015), that is already endowed with many policies, rules and regulations in place, but it fails to attract agents because of the lack of entrepreneurial network and mentors in the city.

Cell 3 represents an EE that focuses on the bottom-up effort to build entrepreneurship with little guidance from the government or rules. In a sense, this is like the Wild West. It has a vibrant entrepreneur community with energetic and forceful entrepreneurs but lacks institutional support. In this situation, entrepreneurs rely on private resources and are not able to obtain formal financing for their ventures. Examples include many Latin American countries that have high entrepreneurial aspirations and attitudes but lack institutional support (Sussan, Autio, and Kosturik 2016).

Cell 4 represents an EE that has both high institutional support and high agency capabilities and activities. In order to reach this state, both institutions and agents are required to be endowed with knowledge, have a sense of community that share beliefs and meanings, and have balanced power between institutions and agents. In other words, this EE has the enabling conditions of institution support, balance of power between institution bodies and individual agents who are outside of institutions, and thus is an ideal platform for co-creation. Examples include EEs with vibrant startup and scale-up activities with abundant institutional support in cities like Boulder, U.S.; Gothenburg, Sweden; and Silicon Valley, U.S.

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### Case Study of Macao

The above conceptual framework can be used to track the evolution of EE as, at any given place, EE building is not static. For example, at the national level, in some years, institutions are dominant and subject to political evolution, and, in other years, the agency is dominant depending on the economy and other factors. To illustrate the conceptual framework proposed above, this section follows a 50-year historical development of the economic policies of Macao and trace the evolution of EE development. A research method of periodization is used here to select critical political events and identify them as turning points that have transformational effects on EE development. These turning points in Macao history are 1961 designating gambling monopoly, 1999 hand over from Portuguese rule to China, and 2003 ending of gambling monopoly. These critical events have impact on the economy and are directly related to SME policies. Very briefly, in 1980, there were 1,391 SMEs, in 1990

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there were 2,463, in 2004, there were 34,152, and, by 2012, the number of SMEs soared to 57,188 (Sit et al. 1991; White Paper 2013).

In Figure 2, the bottom row represents major political events in Macao's history – 1887, 1988, and 1999. The top row of the text represents institution-initiated specific SME policies or support at various points of the timeline. The middle row of the text represents the more macro-business environmental events that indirectly impact entrepreneurial activities.

1887 marks the official date of Portugal controlling of Macao. Very briefly, in the wake of the Opium War in 1840, Portugal was able to seize two islands in Macao – Coloane and Taipa. A few decades later, in 1887, Portugal and the Chinese government (Qing Dynasty) signed the “Sino-Portuguese Treaty of Peking” formalizing Portuguese perpetual administrative control of Macao (Dana 1999). In 1999, the sovereignty of Macao was transferred back to China. Between 1887 and 1999, there were a number of developments with direct and indirect impact on Macao's entrepreneurial activities. The most notable ones are the granting of gambling monopoly, in 1937, to Tai Heng Company, and, in 1962, the government granted Sociedade de Turismo e Diversoes de Macao (STDM), a syndicate of Macao and Hong Kong businessmen, the monopoly rights to all forms of gambling<sup>1</sup>. This monopoly license was renewed in 1986 for 15 years. While the 1960s and 1970s are mainly about the growth of Western-styled gambling businesses in Macao that have attracted millions of Hong Kong gamblers, there are a few political events that are worth mentioning. First, in 1966, there was the Cultural Revolution in Mainland China and the outbreak of riots in Macao and Hong Kong. Second, in 1974, there was an anti-colonialist Carnation Revolution that resulted in Portugal considering relinquishing all claims of Macao and proposed to return the colony to China. Given the emphasis on the gambling business, the entrepreneurs emerging during this period are mainly from gambling businesses – Fok Chi Ting of Hou Heng Company, Fan Chi Pang of Greyhound gambling, Fu Tak Long and Kou Ho Neng of Tai Heng Company, Stanley Ho of Casino Lisboa, Yip Hon, and Ho Tin from importing photovoltaic products. Some of these entrepreneurs will continue to build family empires that will later become dominant players in EE in the new millennium.

The second major political event in Macao's recent history is the transfer of its sovereignty from Portugal to China. Although in 1974 the Portuguese

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<sup>1</sup> In 1961, Governor Jaime Silverio Marques designated Macao as a “permanent gaming region” and declared Macao a low taxation region and regarded gaming and tourism as its major economic activities. Marques defined gaming as “Any game with results that are unpredictably and randomly generated and win purely by one's luck is called games of fortune.” The gambling monopoly to Tai Heng ended on December 31, 1961.

government has already planted the seed to return the colony to China, it is not until the 1980s that formal negotiation began to take place. The timeline of this negotiation process parallels that of the negotiation of the transfer of British sovereignty of Hong Kong to China. The mentioning of Hong Kong here is important as Macao followed the *laissez faire* policy of Hong Kong and had extensive economic policies<sup>2</sup> drawn up in 1984 (Sit et al. 1991). During this period of negotiation of transfer of sovereignty, sustained efforts and government policies had a direct impact on small and medium enterprises (SMEs) which are the fulcrum of entrepreneurship. Large scale infrastructure projects were approved during this period to include a deep-water Macaoport in Coloane Island, several bridges connecting the islands, and a brand-new international airport. A legislature allowing the import of foreign workers was passed in 1988. A six-year universal compulsory education law was also passed in the same year. These events lay the foundations for an EE. However, political uncertainties shadowed entrepreneurial growth during this period (Santos, Khong, Trigo, Kong, and Vong 1994). For the decade of 2003 to 2013, there were 7,800 SME applications for the SME aid program with 6,500 of these applications being approved. After the formal handover of sovereignty in 1999, more institutional efforts will emerge.

The post-1999 Macao sees a lot of reforms and new initiatives from the institutional side. First, directly relevant to entrepreneurship, a Macao New Tech Incubator Center was formed in 2001. Second, the monopolistic gambling license to the syndicate of Macao and Hong Kong businessmen expired in 2001, and, as a result, the new government calls for the opening up of the market by granting a total of six new licenses (previously three) in 2003. In 2003, a “Closer Economic Partnership Agreement” (CEPA) was made to foster better economic relationship with Mainland China. In 2003, the SME Aid Scheme is also implemented. 2003 became a year of major policy changes and regulatory initiatives that impacted the EE. A white paper (2013) also uses 2003 as the demarcation year for Macao’s

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<sup>2</sup> According to the Sectorial Policies, Investment Plan 1984, there are four major policy packages to promote industrial development, spatial distribution of industrial activities, and the diversification of industries to suit changing international market situations: 1) economic incentives: incentives will be granted to activities or enterprises which contribute to the modernization and diversification of Macao industries, or whose opening, relocation, and site for new expansion would improve the regional distribution pattern of industries. 2) Regulating and control of industrial activities to meet requirements of international trade agreements. It is generally free to export goods from Macao. (3) Factory registration. The Industrial Law specifies that factory registration should only be given or rejected for reasons of social order, environmental and other public interest considerations and not on economic grounds. (4) Protection of industrial properties. All registered trademarks and patents under Portuguese laws will be similarly protected in Macao. There are other initiatives that include manpower training, dissemination of information, technical consultancy, and export promotion through foreign exhibitions, with participation from associations of industries and commerce (Sit et al., 1991).

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economic landscape with large foreign companies contrasting smaller local companies. The same white paper traced Macao’s SMEs becoming smaller after 2003 when compared to the period before 2003 and attributed to larger foreign companies (mainly new casino operators) cannibalizing SMEs in Macao. The decade from 2003 to 2013 saw many institution-initiated efforts. An SME Center is established in 2007 to provide knowledge for startups and to provide consulting services for entrepreneurs. A series of trade related conferences and fairs was promoted to stimulate small businesses: e.g., annual franchise expo in 2009, E-commerce promotion incentive measure, InnoICT Business Plan Competition in 2010, and others. In 2011, Hengqin-Macao Cooperation is drawn to strengthen the economic ties between Guangdong, a contiguous neighbor in China, and Macao.

Institutional support for startup and entrepreneurship galvanizes in 2013 when the government launched the Young Entrepreneurs Aid Scheme for young entrepreneurs, ages 21 to 44. Later, in 2015, Hengqin Youth Entrepreneur Valley, in collaboration with Macao University of Science and Technology, also started. In the same year, the Center for Entrepreneurship and Innovation was established in the same university. In 2016, private efforts by Galaxy also started to establish entrepreneur funds for local entrepreneurs.

**Figure 2: Timeline of Critical Political Events in Macao’s History**



*Source: Author's compilation of historical events*

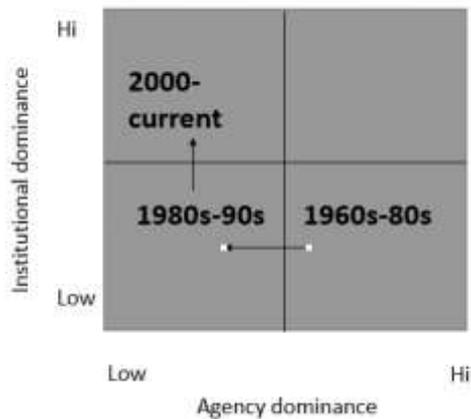
However, a white paper (2013) suggested there is a tradeoff from opening the market to foreign gambling enterprises at the expense of small local companies. The white paper reported that the post-2003 businesses

became smaller in size and their growth shadowed that of Macao’s average overall economic growth, resulting in an imbalance of large foreign companies versus small local companies.

**Analysis**

Tracing the efforts of institutions in promoting entrepreneurship or small medium sized enterprises, combined with the actual private entrepreneurial activities, Figure 3 is drawn in alignment with the conceptual framework presented in Figure 1. Beginning chronologically from the 1960s, evidence from the data showed that Macao’s government gave a gambling concession to STDM, a consortium of businessmen from Macao and Hong Kong. During the 1960s and 1970s, Macao benefited from the new legitimized gambling industry that brought in millions of tourists from Hong Kong, resulting in an active EE with small businesses feeding the tourist and gambling industries. Indeed, many of the owners of these gambling companies became major Asian tycoons decades later. With little government support, this era can be classified as high entrepreneurial activities and low institutional support, fitting into Cell 3 at the bottom right of Figure 3.

**Figure 3. The Evolution of Entrepreneurial Ecosystems in Macao**



*Source: Author’s Own Configuration*

In the 1980s and 1990s, Macao’s government was busy negotiating handover of its sovereignty to China. During this process, entrepreneurial spirits and activities are low due to political uncertainty (Santos et al. 1994), as evidence from the data showed that most of the institutional efforts are on

planning the roadmap to prepare for handover. The preparation included mostly large-scale infrastructure projects (Macaoport, airport, bridge) with some major drafts of economic policies which, however, did not seem to specifically target SMEs to support EE growth. This era benefited the already established STDM, the major casino operators. In fact, STDM were able to extend their monopoly for another 15 years till 2001. The two decades before the formal handover to China in 1999 were, thus, low in both entrepreneurial activities and institutional support, placing them in the lower left corner in Cell 1 of Figure 3.

The handover of sovereignty in 1999 resulted in many additional and positive institutional efforts to support EE. Although 2003, the year gambling monopoly to STDM was opened to foreign enterprises, was marked as the watershed dividing large foreign firms and small local firms (Sit et al. 1991), Macao's government launched a series of SME-focused policies and infrastructure projects to support the growth of EE. Some of these activities included SME Aid Scheme, CEPA, SME Center, Hengqin-Macao Cooperation, InnoICT Business Plan, and the Annual Franchise Expo. This era of strong institutional support can be classified as Cell 2 in Figure 3. Although with high institutional support, there does not seem to be too many traceable activities by entrepreneurial actors during this period, other than increasing investment from large casino operators, both foreign and local, and local entrepreneurs who are family members of the large casino operators. Macao maybe on its path toward Cell 4 of Figure 4 in the near future as government-sponsored Startup incubators began to emerge in 2015. More entrepreneurial activities are still needed to bring them toward EE of a co-creation nature.

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## **Conclusion**

This paper used the two major components of institutions and agents within an EE and proposed a new conceptual framework of institutional- versus agency-dominance dimensions to examine an EE. Fifty or so years of history of Macao was used to illustrate the new conceptual framework. The results of the study showed that Macao's EE was in agency-dominance in the 1960s and 1970s, moved to inertia in low institutional- and low agency-dominance in the 1980s and 1990s, and became institutional-dominance in the 2000s and onwards.

The various stages of Macao's EE, as analyzed historically and then categorized in the conceptual framework, provide insights for EE researchers and policy makers. For researchers, the findings confirmed that an EE is not static (O'Connor et al., 2018) and is indeed evolutionary. Researchers can use the empirically tested new conceptual framework to trace other EEs at a place, be it a nation, a town, a city, or within an industry. The conceptualization of

agency - versus institutional-dominance adds toward the need for theorizing EE research (Autio et al. 2018). The case study of Macao adds to the inventory of longitudinal investigation of EE (Mack and Mayer 2015).

For policy makers, the slogan of 'we build them, they will come' is unfortunately not always correct. Most of the policies that are aimed to support SMEs are ultimately rarely used (White Paper 2013) or ineffective (Ács et al. 2017). A top-down approach to build EE is suspect. A more stakeholder-focused ecosystem building approach has been suggested (Autio and Levie 2015) and, possibly, a co-creation route maybe more effective. Future research should investigate the process of building EE from a co-creation perspective to identify the changing roles of institution and agents. One such idea was proposed in Sussan and Ács (2017) in the digital economy environment where digital entrepreneurs will dominate in the rewriting of governance for their industry. If that's the case, it will become necessary for policy makers to rethink when and what roles they should assume in the development of EE, specifically related to digital entrepreneurship.

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