
Editorial

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Biographical notes: Jin Chen is one of the most highly cited Chinese management theorist in the field of innovation studies. Currently, he is the Director of the Research Center for Technological Innovation, Tsinghua University. He is the Editor-in-Chief of *International Journal of Innovation Studies* and *International Journal of Knowledge Management Studies*, the Associate Editor-in-Chief of *Engineering Management Review* (EI). Besides, he is also on the editorial boards of the journals *International Journal of Technology Management* (SSCI) and *Science: Journal of Zhejiang University* (SCI).

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1 Introduction

Though the great scholars like Joseph Schumpeter and Peter Drucker emphasised the importance of innovation and entrepreneurship and stressed the relation between them. The innovative and Schumpeterian economy and entrepreneurial economy still differs. Entrepreneurial venturing without innovation is low value-added, innovation without entrepreneurship generates less market value. So, it is an urgent task to link innovation and entrepreneurship for both academic and practical field. Some researchers have made

an aggressive attempt to build such a connection (Bessant and Tidd, 2015). However, the concept of innovation and entrepreneurship is unclear and the causal relation between innovation and entrepreneurship is vague. To better understand the relations between entrepreneurship and innovation, this special issue aims to collect a set of high-quality papers investigating the relation between entrepreneurship and innovation.

The papers included in this issue are:

- 1 Zacca and Dayan, 'Entrepreneurship: an evolving conceptual framework'
- 2 Elia, Secundo and Passiante, 'Pathways towards the entrepreneurial university for creating entrepreneurial engineers: an Italian case'
- 3 Lucky and Minai, 'Empirical evidence on the entrepreneurial mind of the female graduate-to-be in Malaysia'
- 4 Mata García, Deserti and Teixeira, 'Entrepreneurial design: the role of design as driver of entrepreneurial opportunity generation and assessment'
- 5 Shepard, 'When incubators evolve: new models to assist innovative entrepreneurs'
- 6 Carayannopoulos, 'Small, young firm flexibility and performance in the context of disruptive innovations'
- 7 Schuster and Rueck, 'Innovation diffusion, licensing and corporate entrepreneurship – a conceptual review'
- 8 Krasae-in, 'Craft by you: acquiring consumer's idea to the product development for handicraft business in Thailand'.

Both paper one and paper four scrutinised the two basic perspectives regarding the relationship between innovation and entrepreneurship: Schumpeterian and Kirznerian. In Schumpeter's view, entrepreneurs are the disruptive force that dislodges the market from the equilibrium by using advanced knowledge and technology (Schumpeter, 1934). Kirzner (1973) extended the work begun by Mises and Hayek of the Austrian School, debated Schumpeter's concept of entrepreneurship. In Kirzner's view entrepreneur's distinction lies in the ability to see unexploited innovation opportunities. In simple words, Kirznerian opportunities are viewed as 'discoveries' whereas Schumpeterian opportunities are viewed as 'creation' (Mata García, Deserti and Teixeira). The dichotomy between the entrepreneur who is alert to the discovery of hitherto overlooked exogenous created changes and the entrepreneur who is the source of disruptive changes to perceived equilibrium state or status quo poses a false dilemma (Zacca and Dayan).

Furthermore, in the discovery or Kirznerian perspective, "opportunities exist independently from the entrepreneur and are objective entities that are waiting to be discovered by alert individuals. Therefore, most research on the discovery or Kirznerian perspective is focused on why some individuals perceive opportunities and others do not". Whereas in the creation or Schumpeterian perspective, "entrepreneurs do not 'recognise' opportunities and act upon them but rather, they act and wait for a feedback from the market. Then they readjust their initial offering and act again. The process is refined and repeated for as many times as possible" (Mata García, Deserti and Teixeira). As such, the opportunity develops as a social construction and does not exist independently from the entrepreneur (Alvarez and Barney, 2007). According to this approach, "a successful entrepreneur will not only reorganise existing resources and

information but rather, will ask the right questions, design new experiments, remain flexible and learn”.

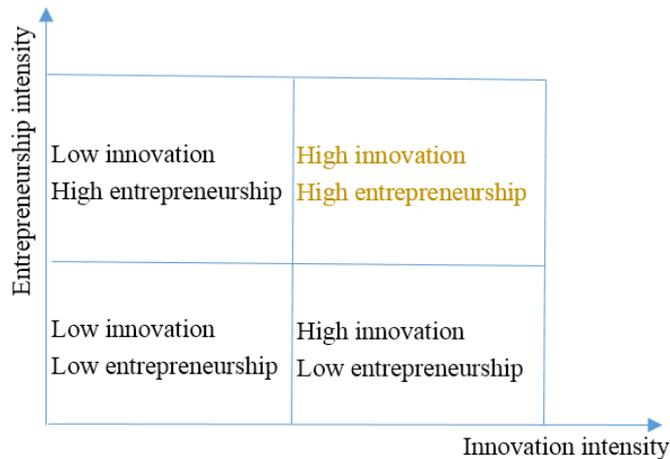
As summarised in paper four by Mata García, Deserti and Teixeira, in recent years, scholars have come to the conclusion that both discovery and creation theory can coexist, or perhaps even be two ends of the spectrum. They are rarely found ‘pure’ in practice, and most entrepreneurial opportunities entail a phase of discovery, a phase of creation and even the influence of luck (Chandler et al., 2003). Therefore, a series of research questions are induced from the concept of ‘entrepreneurial opportunities’ – How can entrepreneurs grasp these opportunities in front of a new wave of innovation models? How can small and large firms build up its entrepreneurship to better prepared for embracing technology innovation? What are the roles of universities and government in fostering entrepreneurship through education of future entrepreneurs and through incubators for start-ups?

In this special issue, the eight selected papers touch on the above research questions from various perspectives. To view in a full frame, however, we try to incorporate the two-dimensional innovation and entrepreneurship into a matrix, and then draw a research map based on this matrix by locating the selected papers in this issue on to this map.

2 The research map of innovation and entrepreneurship matrix

Firms and other R&D institutes such as universities can be measured in two dimensions: whether they are intensive in innovation and in entrepreneurship. Thus, a simple matrix of innovation and entrepreneurship can be drawn as Figure 1.

Figure 1 The innovation and entrepreneurship matrix (see online version for colours)



Entering the high-innovation and high-entrepreneurship quadrant is every firm’s dream. It is like the promised land in the Bible that is ‘flowing with milk and honey’, where firms can harvest ever-growing monopolistic profit from innovation, which is in turn guaranteed by the spirit of entrepreneurship in all the levels of the company. On the other hand, both small enterprises and large corporations are possible to be trapped in the

miserable low-innovation and low-entrepreneurship cell, either because of lack of R&D investment or because of lack of ability to foresee and seize opportunities, or both (Venkataraman, 1997). If we use a metaphor of the Old Testaments, firms being in this cell is alike the Israel being enslaved in Egypt before Exodus, trapped in price competition with little hope of redemption.

Nonetheless, there are a number of start-ups or corporate spin-offs are in the third quadrant. They started with high level of entrepreneurship but need time to cultivate new technology applications or business models before harvesting the fruits of them. Firms in this stage are trying hard to survive just as their counterparts in the low-low cell do, but the difference is that they are going through the ordeal with hope. It is just like when Moses led the Israel out of Egypt but needed to journey and be trained for 40 years in the wilderness before entering the promised land.¹

Entrepreneurship can be gradually built up, and it can also be reduced down. In the 1980s, IBM remains high-innovative with heavy R&D investment, yet, it is lagged behind in the emerging PC market where a new generation of entrepreneurs such as Steve Jobs and Bill Gates pioneered and got prospered. Many universities also fall into the high-innovation, low-entrepreneurship category. The Technology Transfer Offices (TTO) in many universities may hold a great number of valued patents but in general they are lack of entrepreneurship to efficiently exploit the use of these patents (Chapple et al., 2005). Yet, another example in this quadrant are hundreds of thousands of small but innovative enterprises. Instead of growing into a great company, they are merged or acquired by large corporations. Some M&A upgrades the projects with a promising future (such as AlphaGo into Google) but many end up to downgrading (such as Skype into Microsoft). This quadrant can be compared with Israel's exile into Babylon. After taking the promised land for one thousand years, the Israel was conquered and the people were captured and forced to immigrate to the Babylon city. Different from the slavery status in Egypt though, the elites of Israel (such as Daniel, Esther and Nehemiah) were by large respected and the Jewish culture were prosperous there (highly innovative). Nonetheless, the Israel nation lost its spirit of entrepreneurship, and only a small portion of them choose to return to the promised land after Persia conquered Babylon and released the Israel.²

Figure 2 depicts the isomorphic structure of Israeli history and the innovation-entrepreneurship matrix. It helps to understand the dynamic change from one quadrant to another.

We can further illustrate the innovation-entrepreneurship matrix in three dimensions (see Figure 3). Every firm wants to stay in the 'promised highland', but it is extremely difficult to achieve and on the contrary many companies are trapped in the miserably 'enslaved Egypt'. Some entrepreneurs choose to enter into the 'wilderness' of immature technology to try their luck, and maybe that 'wanderings' will lead them to prosper in the promised land, or more likely toward destruction. Just as the metaphor of Exodus reveals, the generation who followed Moses out of Egypt dies on the journey and only the next generation were able to pass the Jordan River. How truth it is in the start-ups as well! Finally, a great portion of the most innovative corporations which used to stand in the highland eventually lose their momentum of entrepreneurship and are acquired by other companies (exiled in to Babylon) or even disintegrated, with Nokia as a latest case.

After categorising firms into the Israel model of innovation-entrepreneurship matrix, the following research questions can be naturally raised: how to escape from 'Egypt' to

‘wilderness’? How to enter the ‘promised land’ from the ‘wilderness’? And how to regain the spirit of entrepreneurship after being exiled into ‘Babylon’?

Figure 2 The Israel model of innovation-entrepreneurship matrix (see online version for colours)

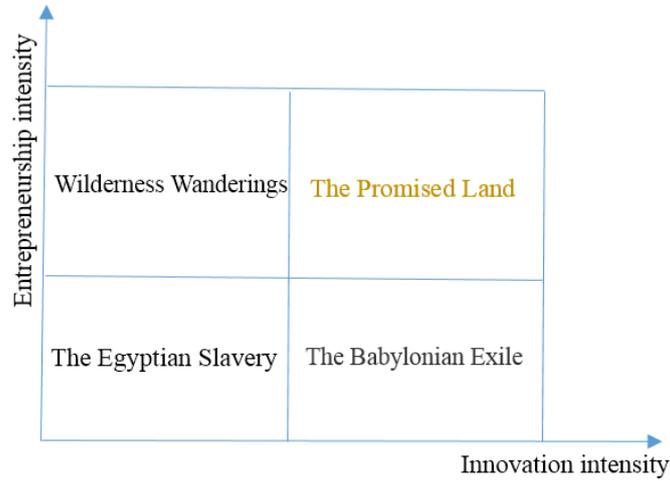
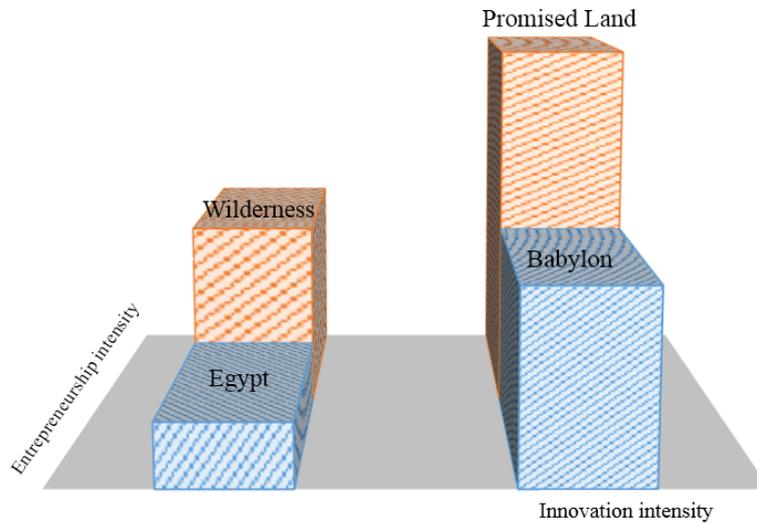


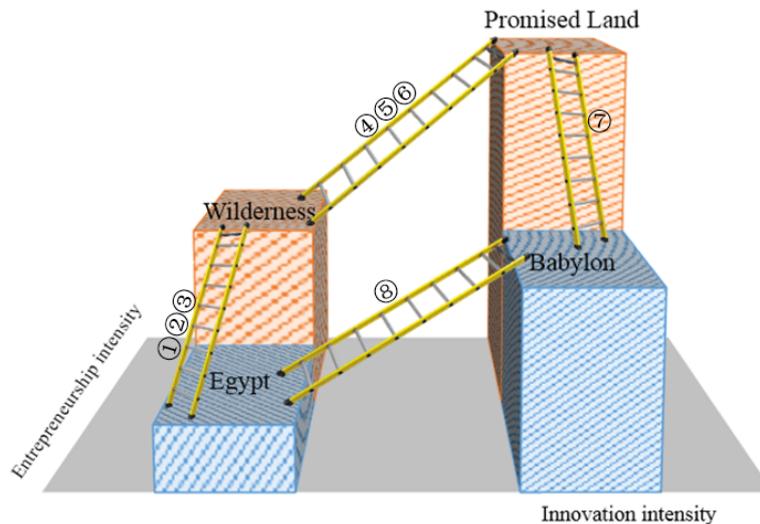
Figure 3 The Israel model of innovation-entrepreneurship matrix (see online version for colours)



In fact, the eight papers selected in this special issue try to tackle the aforementioned questions from different perspectives. In another words, they are building ladders towards the promised highland. The research map of these papers are illustrated in Figure 4.

In terms of building up entrepreneurship, paper one by Zacca and Dayan tries to define ‘entrepreneur’ by distinguishing it from promoter, administrator and intrapreneur. Paper two by Elia, Secundo and Passiante and paper three by Lucky and Minai discuss about education towards entrepreneurship in Italian and Malaysian universities, respectively.

Figure 4 The research map of the eight papers of this special issue (see online version for colours)



Papers four to six try to tackle entrepreneurship problems in the next stage, that is, from entrepreneurship to innovation. Paper four by Mata García, Deserti and Teixeira provides a tool to identify entrepreneurial opportunities. Paper five by Shepard examines the evolution of incubators since 1950s and looks into how incubators benefited start-ups in the USA. Paper six by Carayannopoulos analyses how the flexibility of small and young firms can interact with advancing of technology.

Paper seven by Schuster and Rueck discusses how big companies can regain the spirit of entrepreneurship through corporate entrepreneurship. As noted in Chen et al. (2005), corporate entrepreneurship, or the entrepreneurial orientation of a firm, is not only the entrepreneurship of leaders or any particular individual in a corporation, but also the entrepreneurship of all employees as a whole, thereof, the study of corporate entrepreneurship provides an essential channel to guide big and innovative companies to regain its entrepreneurial strength. Finally, paper eight by Krasae-in discusses how to build innovation strength for small businesses through user innovation.

These papers are themselves innovative and we are sure readers of this special issue will be inspired tremendously. Moreover, we hope the studies of this issue will generate even deeper and more intense discussions regarding the relationship between entrepreneurship and innovation.

3 Conclusions

By examining the brilliant thoughts of Schumpeter and Kirzner on the relationship between entrepreneurship and innovation, we are able to date back the journey of entrepreneurship and innovation even earlier in human's history. The experience of the nation of Israel recorded in the Old Testaments resembles the whole entrepreneurship and innovation dynamics of modern companies, for instance, it records how a country got birth from the slavery in Egypt through a great entrepreneurial leader Moses, how Moses

trained the congregation into an entrepreneurial organisation in the wilderness for 40 years, how the Israel people took occupation of the promised land flowing with milk and honey, how they lose the momentum of entrepreneurship and were exiled into foreign lands, and how did they return and regain the spirit of entrepreneurship to rebuild Jerusalem. These historical stories constitute a lively textbook of entrepreneurship and innovation, and educated the Israel nation for thousands of years. Now as a modern country in the 21 century, Israel is still famous for its advanced technology innovations and vibrant enterprises.

To learn from the history, this paper builds up the Israel model of innovation-entrepreneurship matrix, which can be used as a research map to allocate studies on the innovation-entrepreneurship relationship. We hope this model is not only helpful for researchers to advance their studies, but also facilitate innovation strategists in firms and public institutes to better understand academic literature and put the mindful thoughts of this field into practice.

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Notes

- 1 In fact, it is the training in the hopeless desert that helps build up entrepreneurship in the nation of Israel. Before the training, Moses sent 12 spies to see that possibility of entering the promised land right away, however, most of them reported "we went in to the land where you sent us; and it certainly does flow with milk and honey. Nevertheless, the people who live in the land are strong, and the cities are fortified and very large...We are not able to go up against the people" (Numbers 13:27-28, 31). This risk-averse attitude proves Israel by no means got ready for taking the promised land at that time. After 40 years wandering in the wilderness, however, the Israel finally took the courage to occupy the promised land 'flowing with milk and honey'.
- 2 Even for those who returned to Israel, Ezra and Nehemiah had to put rounds of training and disciplining toward them to rebuild Jerusalem and regain the Israeli nationality (Nehemiah 2:11-18; Ezra 9:1-2; 10:10-14).