**ISSUES AND CHALLENGES FACE BY THE UNIVERSITY SPIN-OFFS: A CASE STUDY AT UNIVERSITI TEKNOLOGI MALAYSIA**

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Abstract

This paper presents a case study on issues and challenges faced by the university spin-offs at University Teknologi Malaysia. Semi-structured interviews were conducted with researchers who were also affiliated as chief executive officers at respective spin-offs and senior lecturers at Universiti Teknologi Malaysia. The finding of this study showed that the most common issues and challenges faced by UTM entrepreneurs include financial, legal and procedures, commitment, organisational and others. The findings of this study can be used to improve the understanding of university spin-offs, issues and challenges which are commonly faced by university spin-offs in Malaysia.

Keywords: University spin-off, issues, challenges

INTRODUCTION

A University spin-off is a company that is exploiting a university intellectual property. Spin-offs are attracting considerable attention because of their potentials to (a) enhance local economic development, (b) assist universities in their major mission of teaching and research and (c) generate high-performance ﬁrms (Shane, 2004). At the same time, the whole processes of the spin-off are complex. A lot of issues and challenges arise before, during and after the processes of spin-off. Many important factors which can significantly impact the outcome need to be taken into consideration for the success of spin-off. To succeed, spin-off needs proper planning management skills. This can be easier done when there is proper guidance from previous researchers and backed by experienced third parties.

There are a few issues and challenges that are commonly faced by university spin-offs especially in their initial stage. Among the challenges mentioned in the previous literature are funding and commitment (Neves, 2016; Francis, 2015;). Apart from that, there are also many other issues and challenges that commonly arise in the academic spin-offs in Malaysia. Using these premises, this study is conducted purposely to further understand the issues and challenges of Malaysian universities spin-offs.

Five semi-structured interviews were conducted with researchers who were also affiliated as chief executive officers at respective spin-offs and senior lecturers at UTM. The five respondents were from 1. Holistic Lab, UTM; 2. Institute of Bioproduct Development (IBD), UTM; 3. Unbox Resources Sdn. Bhd.; 4. KAZ Beautyherbs & Wellness PLT; and 5. Synapse Innovation Center.

1. Findings of the study

Table 1 shows the summary findings from the interviews which have been analysed and categorized into a few themes under each challenge and issue in spin-offs at Universiti Teknologi Malaysia.



1.1 Financial issues and challenges

The first and foremost important aspect that needed to be focused on is funding. All of the respondents agreed to this aspect and agreed that it is the prior aspect that needed to be focused on. Funding is a crucial resource needed to start a new venture. In the initial stage, for a spin-off, government funding is essential to promote a new venture through various programs. Besides, respondent 3 and respondent 4 clearly stated, external funding is essential for the further development of technology to allow the company to enter the prototype stage from which potential consumers can be convincing. Funding in this stage of development seems to be particularly problematic. Indeed, as respondent 5 mentioned, while most universities generally support the various legal protection costs as part of their intellectual property policy, very few of them can cope with technological and commercial development fundings.

While, on the one hand, public funding is committed to fundamental research, very few private corporate sponsors are investing so early in the process, due to the current high-tech market's unpredictability and uncertainty and the low entrepreneurial capacity of the researchers. There is no doubt that this 'financing gap' is the key issue to overcome to finalize proper entrepreneurial projects. Respondent 4 stated that to have proper financial management, they must be financially stable. All in all, financing is the most important aspect to be considered in starting a spin-off.

1.2 Legal and procedures issues arise in the spin-off

All respondents have agreed that legal and procedural issues are very common in spin-offs. Spin-off requires a combination of government organizations approvals. Business entity decisions, business licenses, service contracts, employee issues, and more, are among legal and procedures issues for entrepreneurs and spin-offs. Addressing these types of issues early will help the entrepreneurs to start the business faster. According to respondent 2, although there is a significant change, licensing of a company is still a difficulty. Tax law regulations, intellectual property rights, dispute resolution are time-consuming processes, and these processes are considered to be complicated in most cases. These time-consuming processes are also a common problem face at the initial stage.

Three out of five respondents stated that the process of starting a spin-off can be considered complex. This is because, before stepping into this new zone they need to ensure their readiness in many aspects. For examples fund, technical support and human resource. Respondent 2 stated that the establishment of a spin-off is considered a complex process because it involving the establishment of a separate business with the subsequent assignment of IP assets, project and risk management and under certain conditions raising funds to pull financial contribution shareholders. This is because of a lack of significant experience in IP management that is likely to limit the commercial potential of a new product.

After ensuring all these, they can apply for a spin-off start-up and ensure that they have clearly understood the policy stated by the university. To fulfil this process, a lot of forms needed to be filled up. As respondent 5 said, this process is quite lengthy but still can be completed with guidance from the Innovation and Commercialization Centre. This process might take some time to receive approval from the university. While this is being processed, they need to do follow-ups and attend several meetings to ensure that they are on the right track. Since this is related to the university, each process should be compared to the latest policies and procedures of the university. Furthermore, since spin-off is relatively new for Malaysian universities, the related policies, procedures and forms are kept on improving or changing.

In addition, a business plan should be developed to identify the spin-off objectives and the appropriate actions to be taken. Need to find a proper infrastructure and investors are also parts of this process. Next, also need to ensure the establishing spin-off management in line with the overall IP policy of the patent office. The expected financial return should be defined and finally, there must be a proper exit plan also. Overall, the process of the spin-off is complex and times consuming.

1.3 Commitment

Next, the most common issue is commitment. Three out of five respondents agreed that commitment is a common problem faced by university spin-offs. As all the respondents are university lecturers, they champion to commercialize their research. According to the respondents, spin-off should be run fully focused without many distractions of other commitments. Every performance should be planned and executed, failure to do this is might end up in great loss. But this is the common problem that arises in university spin-off. According to respondents 5 and 1, many lecturers who decided to start a spin-off end up giving up because of lack of commitment or having other commitments besides spin-off. In certain cases, they may leave the university to run the company or may run the company in parallel with their educational responsibilities or let the third manage the spin-off. In the situation when the management responsibilities have been completely taken up by the third party, the progress of the firm will be completely based on their progress. In certain cases, this might end up with the spin-off losing opportunities in the market due to slow market introduction or response by the third party. Respondent 5 stated that, when the responsibilities have fully taken up by another third-party, possibilities for trust issue arises.

1.4 Organizational issues faced by university spin-off

All respondents admitted that organizational issues were a challenge for their spin-offs at the initial stage. Spin-off transactions require an intensive and focused planning effort. The deal team must decide how to be best allocate operations, assets and liabilities between the parent company and the spin-off. It must resolve complex tax problems, issues related to securities law and accounting, as well as issues related to capital structure, finance and staff issues. It must also rectify a long list of governance issues, including questions about the structure of the spin-off company board, the importance of conflict-of-interest mechanisms, and the importance of resilient takeover defences. As said by respondent 4, spin-off transactions proceed more smoothly if the deal team starts working with a clear understanding of the governance issues they need to address and if they start working early on these issues.

According to respondent 3, assessments and a general understanding of the organizational structure and culture will help to determine that the leadership team, the general managers, and the business unit heads need new skills and tools to successfully build the spin-off and execute a successful integration. A better leader can always make a good decision that will lead the firm towards its goal.

Human resources and facilities availability also become typical issues in a spin-off. Four out of five respondents considered these issues are important factors for spin-offs operations. At the initial stage, as mentioned earlier, funding is the main issue. This will indirectly become the root cause for the lack of human resources and facilities for the spin-offs’ operations. When starting a spin-off, there is a lot of work to be done. Respondent 5 stated that there must be a person in charge of handling each department like management, finance, technical, logistics and many more, or at least have to be outsourced. It is very hard for one or two persons to handle all these matters in a spin-off. However, in many spin-offs, this becomes a common problem, due to lack of funds they cannot hire more persons or outsource to handle the works. This might result in the slow performance of the spin-off. At the same time, as specified by respondent 5, in the initial stage they do not have enough facilities to run the spin-off. For example, one of the respondents has mentioned that they do not have their own office due to a lack of funds.

According to respondent 1, spin-offs also need to motivate their employees. Employees are an important part of a spin-off. According to respondent 1, the period and scope of divestitures require multiple communication channels and agents to align and motivate key stakeholders around the divestiture benefits. Change is never easy, and it is essential for management to act as leaders to help employees through the transition and see where they hold up. Respondent 2 stated that hiring and retaining the right people is crucial for coping with the heavy lifting and developing a strategy while keeping the existing businesses running successfully while the spin-off is in motion.

1.5 Other challenges

Further, gaining customers’ trust in the market is another big challenge for a spin-off in the beginning stage. Four respondents have agreed and mentioned this point. A proper market needs study has to be done to know the value of the product or service to the potential customers. One of the most effective ways for a spin-off to build customer trust is by providing them with valuable educational content. For that, the spin-off needs to ensure not only present their company as a leading expert in the industry, offering useful blog posts, tutorials and guides, but also proven that they can solve the problems of their target audiences or potential customers. Customer’s trust is very important to earn profit. Profit is very important for a spin-off to sustain in the competitive market.

Moreover, recognition of opportunities is a crucial first step in the business process. Four respondents have agreed to this point. In the case of the academic spin-off, there may be several individuals and organizations, both internally and externally, that can play an important role in identifying an opportunity. The academic inventors are assumed to have particular knowledge of their field of research, which led to the development of new technologies. According to respondent 2, although the academics may have extensive knowledge of their research field, they may not be able to recognize their commercial potentials. The current focus on academic entrepreneurship based on patents, licenses and the creation of spin-offs, need to be expanded to cover other commercial and non-commercial activities. Universities that are more successful in promoting spin-off companies usually draw on all sources of opportunities.

Additionally, an important driver of economic growth is the generation and development of new ideas. Three out of five respondents agreed to this point. New ideas may appear in various ways, but many of them are generated in existing firms by employees or through researches. According to the respondents, it is depended on how these ideas are implemented and how the decision on development relates to the characteristics of the industry, the parent company and innovation made. To survive in the market, a spin-off has to make the right decision at right time. According to respondent 5, spin-offs that understand their life cycle strategy and business, use portfolio analysis to exercise options quickly. An informed decision to spin-off a business earlier makes it possible for divestitures to become a vehicle for transformation, value creation and corporate renewal.

Another common challenge in university spin-off is transforming research and knowledge into business. Two out of five respondents admitted this challenge faced by their spin-offs, where entrepreneurs need to specialize certain skills and capabilities to commercialize their idea or research. According to respondent 1, when an entrepreneur fails to do this, it is very hard to sustain in the market. Other than skills, proper planning is also crucial. A better option is by building models or prototypes. A model is a visual representation of an idea and is used to understand, communicate, and simplify innovation. To build a prototype itself need fund. All these issues are normally interrelated and when one affects the performance continuously, one after another will arise. So proper business planning is needed.

1.6 Strategies to be successful

Spin-offs are not always successful. As respondent 3 said, poor planning ahead of the spinoff and focusing too narrowly on relatively close-term results and market reactions can defeat the spin-off’s long-term prospects. According to all respondents, there is no exact formula for every spin-off to imply and wait for the income. However, few strategies will help a spin-off to run successfully. Long-term success comes from having a well-developed long-term plan and executing it.

A spin-off company should get the right operating model. Two out of five respondents mentioned that the right operating model is important for a successful spin-off. As respondent 3 and respondent 4 stated, a spin-off company should be ready before the spin-off is effective as a stand-alone entity. Low-growth companies must work to control money and standardize processes to reduce costs. So, the right operating model will support the spin-off to streamlining the process to reduce the cost. This enables entrepreneurs to expand their awareness of opportunities, gain access to critical resources such as capital and overcome market barriers.

Likewise, all five respondents have mentioned that understanding the market is crucial during the spin-off growth stage. Business development, business policy, marketing and company networking are some of the factors that affect spin-off growth. According to respondent 1, there are three-stage processes, i.e., segmentation, targeting, and positioning. Firstly, it is important to determine which kinds of customers exist. Secondly, decide and select which ones are best to serve. Finally, implement segmentation by optimizing the products or services for that segmentation. To promote the market well, the pull and push strategy will be beneficial.

1.7 Role of entrepreneurship networks

The research shows that social networks are essential channels through which academic entrepreneurs can access resources and other connections that are important for the development of their spin-offs. According to respondent 4, university spin-offs have particular network-related problems compared to other non-academic business ventures. In particular, academic entrepreneurs need to bridge a gasping social gap between traditional social academic networks and more market-oriented entrepreneurial networks needed to advance their proxy for newly emerging entrepreneurial success to the credibility phase.

As respondent 3 and respondent 4 said, in the early stages of the spin-off, they identified business contacts in a manner that reflects their primary professional environment. Nearly two-thirds of their network contacts are made up of other academic contacts in the first research phase. Faculty peers and graduate students play an important role in motivating and supporting the initial establishment of the university spin-off. Basically, for entrepreneurial development, first-order academic and non-academic contacts are important. According to respondent 4, connections and their related knowledge intermediaries can help socialize faculty entrepreneurs towards market-oriented interests, beliefs, and activities they may not otherwise encounter in an academic setting. Bridging contacts also connect academic entrepreneurs with non-academic contacts that can provide resources and other contacts that are important for their spin-off development. To establish and develop their spin-off, the university innovation and commercialization centre support services is the first point of contact for most academic entrepreneurs. According to respondents, these knowledge intermediaries are viewed as a primary source of resources and connections, in many cases years after spin-off establishment. The contact networks are very essential to make a parallel improvement in the field.

CONCLUSION

The common issues and challenges faced by university spin-off have been identified, including financial, legal and procedures, commitment, organizational (planning, structure, staffing, leading and motivating), skills and tools, market trust, ideas generation and development, opportunities, strategies and networks. Without proper management skills (know-how), stable financial support and good social networks, the creation of a new business cannot succeed. However, this list of issues and challenges do not mean that spin-off is something that impossible. With proper guidance and entrepreneurial efforts, every spin-off can be established and successful in the market.

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