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Thriving on waves of change: Case study of an agile digital business in Singapore

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Abstract

Much has been written and said about the need to be agile for businesses to transform themselves and adapt in the dynamic digital economy. This case study traces the history of a Singaporean IT firm from its inception in 1993 to 2019. In particular, this case study illustrates how agility has enabled the company to grow from a start-up to be among the leading IT firms in Singapore albeit operating in the dynamic IT industry that has grown increasingly volatile with the emergence of disruptive digital technology and innovation. Apart from drawing insights on organizational agility and adaptation, this case study also provides illustration on the theme of entrepreneurship and leadership as manifested through the Founder and Chief Executive Officer.

Keywords

Digital business, teaching cases, is discipline, agility, innovation, IT for competitive advantage

Introduction

Returning from a staff retreat tour, the Founder and Chief Executive Officer of Elixir Technology, Lau Shih Hor, sat in his office reminiscing his entrepreneurial journey of his company repeatedly rising to the waves of disruptive digital innovation in the IT industry.

The entrepreneurial world had often been described as a jungle where only the fittest and smartest would survive. Elixir Technology not only survived but also excelled. Looking back, Lau was deeply gratified and thankful that his company, Elixir Technology, had come this far. He founded the company back in 1993 with his business partner, Jonathan Priddey, as the chief technology officer. Riding on Jonathan's reputation as a technology guru, the company initially started as a training and consulting firm for programmers. He still remembers how it was when the company was first founded. He and his team would frequently meet in the living rooms of their flats, and even at public benches at the Mass Rapid Transit stations in the city-state. Despite its humble origins, Lau led the company with a strong belief that they could play a part in how technology is changing the world.

Responding to market changes

Keeping their eyes open to technology trends while ensuring the company generates sufficient funds and provides necessary risk buffering to ensure the company achieves its long-term development ambitions was not easy. This was especially when they found out that it was difficult to be commercially viable as a training and consulting firm for programmers. Programmers were often independent and self-reliant. Most companies were not ready to pay for the training and consultancy services that their firm offered.

Combining the visionary leadership of Lau and the strong technical expertise of Priddey, the duo decided to switch the focus of their firm to venture into Computer-Aided Software Engineering (CASE) Tool, which

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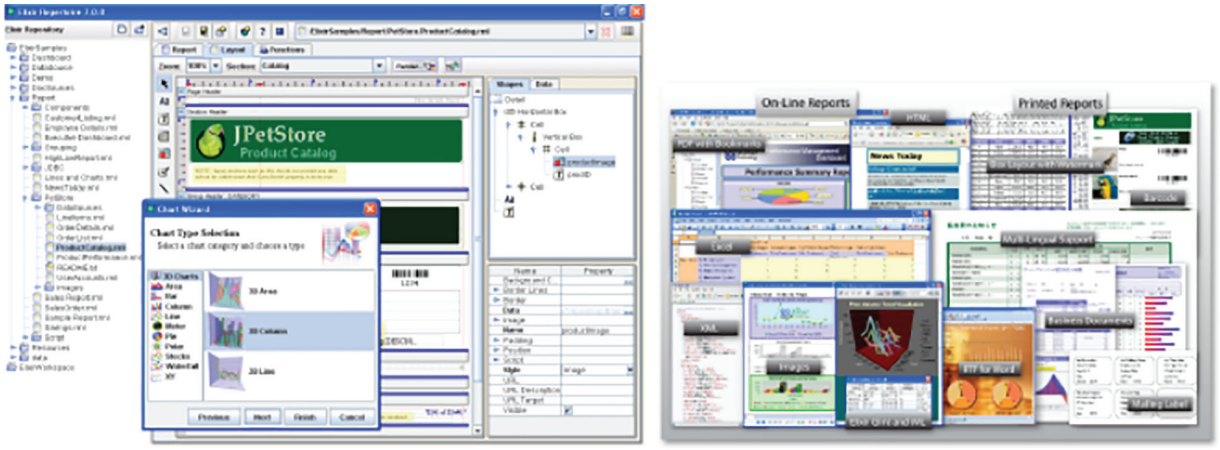

Figure 1. Elixir repertoire display.

capitalized on the rising popularity of the Java programming environment in 1997.

As luck would have it, their foray into CASE Tools were overshadowed by the emergence of Open Source Software (OSS) movement, which started to gain momentum in the late 1990s. Open-source codes were publicly available, hampering the growth of Elixir's CASE Tool business. With this turn of trend in the technology space, Lau and Priddey were soon back to the drawing board to scout for new business direction, which finally saw them venturing into Business Intelligent (BI) reporting tool (Heng et al., 2017).

Lau recalled that the idea for BI reporting tool was initially mooted by two young programmers in the firm. They were thinking to further improve on existing reporting tool that were available in the market. But their idea initially received the cold shoulder from their chief information officer (CIO). Being someone with deep technical expertise and taking great pride in doing innovative and cutting-edge work to advance the state of technology development, he viewed what they proposed to be mere 'copycat' work. If there is nothing new or innovative, he believed it would not be worth the investment of time and energy.

However, Lau was more pragmatic and decided to take on the two young programmers' idea. This eventually led to the rollout of Elixir Report (ER) in 1999. ER was an enterprise-class software application that allowed end user to query and extract data from databases and data warehouses. It was able to present data in various graphical, tabular and textual formats as desired by the users. It was developed entirely in Java, and it allowed for scalability to suit both large and small businesses, including support for localized multilingual reporting. It was also platform-independent, to the extent that it could be used on desktop computers as well as Personal Digital Assistants (PDAs). Such innovation quickly won them substantial market interest.

The release of the ER was also timely as it coincided with the time when the Internet began to gain mass appeal, fuelling corporate end users' appetite to be able to access information easily and quickly, anytime and anywhere. Staying mindful of such market demands, Elixir further innovated on the ER through retrofitting it into an enterprise-class reporting tool and relaunched it in 2001. This new version of ER was capable of multi-channel content delivery to enable accurate information on-demand, anytime, anyplace.

By 2003, ER was crowned as one of the top three reporting tools by winning several awards such as Best Java Reporting Tool; Best XML Tool by the Java Developer's Journal in 2003; Best Wireless Application; and Top five percent by JARS.com. Between 2001 and 2003, Elixir's product revenue soared by 11-fold. Elixir's client base spread across almost 60 different countries and included world-famous companies such as Walt Disney. More than 60% of its clients were from overseas, with only slightly more than 30% of its clients based locally in Singapore.

With revenues often tended to plateau a few years after the launch of a software product due to their relatively short product life, Elixir invested in rapid innovation. Such an approached helped it in becoming a market leader among enterprise business reporting tools globally.

In 2007, ER was rebranded as Elixir Repertoire (refer to Figure 1) after incorporated business analytics and business intelligence tools. Such innovation also helped to expand its revenue growth by more than 160% from 2005 to 2007. It captured 600 customers in more than 80 countries winning four prestigious awards in 2007, which included the honour of being listed in Deloitte Technology Fast 500 the Asia Pacific, which ranks the 500 fastest growing technology companies in the region. That same year, Elixir was also crowned as the fastest growing digital company in Singapore.

Being sensitive to market trends as well as being agile in responding to them had been one of Elixir's key strengths to success. With its Silicon Valley start-up culture and a relatively flat organizational structure, Elixir had always been able to make quick product development decisions and proceed on to do rapid prototyping. Especially in the technology industry, the volatile nature of this business due to rapid technological innovation rendered technology firms to be nimble and adaptive.

Sustaining through crisis

The growth in demand for BI solutions attracted the attention of the big technology firms such as Oracle, SAP, and IBM. Over a period of 4 months, these big players bought over the top 3 BI companies in the market (Heng et al., 2017). Initially, Lau thought that they would survive this round of disruption. But reality soon strikes as sales began to slow. Given his entrepreneurial instinct, Lau soon sensed that the market was making yet another significant shift. But this time is not merely a technology shift but the global financial crisis of 2007. During this crisis, Elixir lost most of its overseas clients to Oracle, SAP, and IBM. They lost many of their major clients, including Walt Disney.

To recover from this crisis, Lau went back to the drawing board yet again to re-strategize Elixir next foray to thrive amid the crisis. He spent much time towards industry networking while searching for the 'next big leap' for his business, which came in the form of Cloud Computing. Elixir began to develop a cloud-based version of Elixir Repertoire using the software as a service (SaaS) model. Given the novel stage of development of Cloud Computing, Elixir found it hard to employ experienced developers who were able to create the SaaS solution. In the end, they partnered with an external cloud services provider to develop a cloud-based version of their existing business intelligence software package. In 2010, Elixir launched Elixir Ambience, a new-generation SaaS business-analytics platform that provided on-demand scalable business-analytics applications that could be tapped by other systems.

Riding on the new Big Data wave

As the new digital wave of Big Data hit the Singapore technology sector, Elixir launched a wholly owned subsidiary BizInsights. BizInsights runs a web-based portal offering self-service reporting and analysis of official corporate data that are drawn from the financial statements of companies that were filed with the Accounting and Corporate Regulatory Authority of Singapore, over the past 80+ years.

BizInsights seems to be a natural progression for Elixir as all the analytics prowess of BizInsights leveraged on the business-analytics platforms created by Elixir, that is, Elixir Repertoire and Elixir Ambience. It is just that with BizInsights, Elixir is no longer limited to the selling of analytic tools, but also ventured into the business of selling 'business insights' (hence the company name BizInsights).

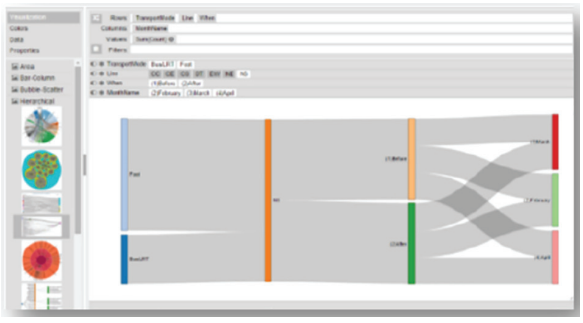

Figure 2. Ambience ad hoc data visualization feature.

Sensing that having only data from Singapore may be too limiting in generating deep insights as most of trade and business transactions are cross-border in nature, BizInsights established partnerships in the Asia Pacific region to expand access to similar data of companies in the region, such as Indonesia and Japan. For example, corporations and individuals could now purchase access to the databases in BizInsights and overlay it with Elixir Ambience to carry out their own analysis of the data to analyse for credit risk of companies, monitor competitors or identify prospective clients (refer to Figure 2).

Moving beyond business intelligence

The year 2014 marked yet another strategic milestone for Elixir as it moved beyond its conventional market space of business intelligence and started venturing into the development of smart solutions. This move towards smart solutions was timely and synergized with Singapore's Smart Nation initiative as the country pushed towards a nationwide digitization effort. Elixir took this as an opportunity for it to be at the forefront of innovating new digital innovation to support the effort to develop the island state into a Smart Nation. One of the services provided by Elixir was to improve citizen engagement. Using a system built on Elixir Ambience, a government agency was able to track citizen's participation in various programmes, courses and activities such that they could provide more effective engagement strategy including providing feedback and analysing the effectiveness of programmes offered (refer to Figure 3).

In addition, one of their other earliest digital innovation is a smart queue management solution for taxi stands (Heng et al., 2017). To overcome its limited talent issue, Elixir strategically partnered with two other technology firms with complementary capabilities in developing the smart queue management solution. One partner specialized in producing

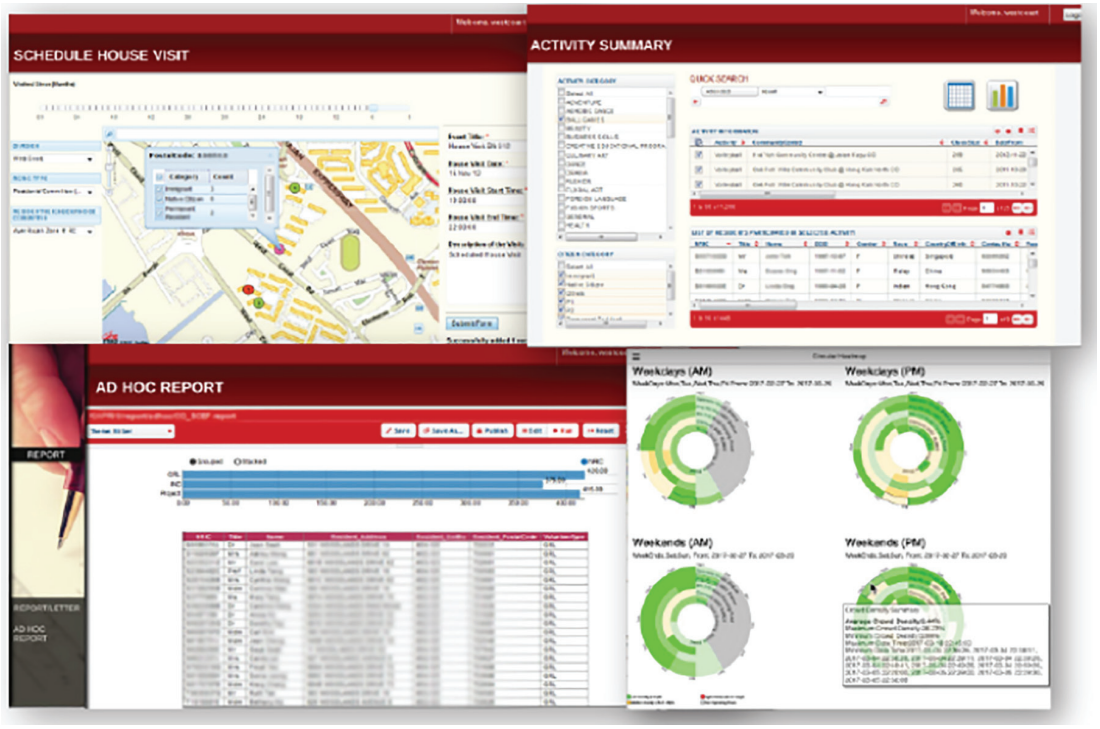

Figure 3. Smart Government is used to improve citizen and member engagement.

high-quality video sensors. The other partner specialized in mobile closed-circuit television solutions with competencies in wireless networking and image processing. Elixir contributed their specialty in business analytics to the partnership.

Together, through leveraging on the complementary competency of each partner, they developed the smart queue management solution (National University of Singapore, 2017). Essentially, video sensors were installed at taxi stands to monitor the length and flow of taxi queues in real time. Alerts could then be sent to despatch vacant taxis to the location. At the same time, potential waiting time could also be fed to commuters, who could then make informed decisions on their travel options. The three partnering firms each contributed their respective competencies in developing this solution. This solution was subsequently showcased at the launch of Singapore's Smart Nation Master Plan in 2014 and has also attracted a great deal of interest from other countries.

Alas, this smart queue management solution was not implemented on a large scale as it was eclipsed by the popularity of car-sharing services in 2014, a year after Uber officially entered Singapore. With Uber, most commuters no longer passively waited at taxi stands but used the Uber app to hail for rides.

Learning quickly from this collaborative experience, Lau saw the strong potential for a collaborative culture among technology firms to work together to innovate and produce smart digital solutions not only in an expeditious manner but also in a manner that any single technology firms would find it hard to accomplish independently. This would also enable the smaller technology firms to have a chance of producing more sophisticated digital solutions that were previously only the ambit of large technology firms.

Motivated by this realization, Lau mustered the industry to work together and launched the SGTech Smart Nation Chapter in 2018. The Chapter aimed to build up and facilitate an ecosystem of smart technology adopters and innovators through extensive industry engagement and collaboration. It allowed its alliance members to better tap on each other's expertise and solutions, which range from Internet of Things and analytics to meet the diverse needs of the customers.

In 2019, Elixir ventured into yet another digital solution with partner firms. They developed a smart urban mobility solution (refer to Figure 4). This solution leveraged on technologies such as Big Data and Internet of Things to collect and analyses data for critical insights of public transportation networks. Essentially, it served as a tool for geospatial analytics to enable better urban planning and policy making. It also incorporated time-series animation maps that allowed visualization of travel patterns.

Looking back at how far Elixir Technology had come since their inception in 1993, it continued to hold true to the belief that they could play a part in how technology is changing the world. Refer to Table 1 for Elixir Technology's Selected Key Milestones and Awards for Disruptive IT Innovations from 1993 to 2019.

Figure 4. Smart urban mobility.

Table 1. Elixir technology's selected key milestones and awards for disruptive IT innovations.

1993	Computer-aided software engineering
1999 to 2005	Elixir Report
2007	Elixir Repertoire with out-of-the-box features
2014	Video Analytics
2015	SAAS Model & Smart Nation Project
2016 2017	Won Sprit of Enterprise Awards Won the Enterprise 50 Awards
2019	SG Urban Mobility
	Won the Deloitte Technology Fast 500 Asia Pacific List Won the prestigious Asia Pacific Information and Communication Technology Alliance Won the German Middle Market Innovation Award 2007

Suggested questions for class discussion

1. What are some of the factors that contributed to the success of Elixir Technology?
2. Explain how Elixir Technology has been able to be agile in adapting their business over the years?
3. Explain what has enabled them to be so resilient and agile.
4. Critique the strategy adopted by Elixir Technology throughout its history.

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