

EARLY STAGES OF HEALTHCARE AND LIFE-SCIENCE SERVICE COMPANIES IN TAIWAN

Matti Muhos
University of Oulu, Finland
matti.muhos@oulu.fi

Lee Tzong-Ru (Jiun-Shen)
National Chung Hsing University, Taiwan

Sz Ying Grace Chen
National Chung Hsing University, Taiwan
cherrycc05@yahoo.ca

Abstract:

Numerous models and frameworks have attempted to clarify management priorities during the early stages of business growth. The early stages of growth represent a critical period for survival of the firm. Instead of building more conceptual/universal studies, more focused, empirically based and context-specific studies are needed. The early stages of technology-based ventures have attracted broad interest, while little attention has been paid to the early stages of service-based firms. This study bridges the above-described gap by examining the early stages of growth in service-based firms in a Taiwanese business context. The research problem can be condensed into the following research question: How do the experiences of managers in Taiwanese early-stage service companies relate to the assumptions of recent empirically based stage frameworks? The business context analysed in this study is Taiwanese early-stage health and life-science service companies. In this retrospective multiple case study, we devise a four-stage framework describing the early stages of service-based firms. This study is a preliminary test of the applicability of the framework, and it opens context-specific viewpoints. It is necessary to recognise these viewpoints when using this framework in this particular Taiwanese business context. Context-specific viewpoints and their effect on the early stages of companies have not been widely studied. This study considers context and provides new insights into the growth and management of service-based companies.

Keywords: stages of growth; growth process; Taiwan; sequential incident technique; service-based companies.

1. INTRODUCTION

Company growth can be studied from multiple perspectives. The literature in this area includes perspectives such as static equilibrium theories (e.g. Coase, 1937), stochastic models (e.g. Gibrat, 1931), transaction cost theories (e.g. Williamson, 1975), economics of growth theories (e.g. Penrose, 1959), resource-based theories (e.g. Penrose, 1959), evolutionary theories (e.g. Nelson & Winter, 1982), organisational ecology theories (e.g. Hannan & Freeman, 1977), strategic adaptation theories (e.g. Sandberg & Hofer, 1982), motivational theories (e.g. McClelland, 1961) and configuration theories (e.g. Churchill & Lewis, 1983; Greiner, 1972). This study focuses on the latter, which is the configuration perspective, aiming to clarify managerial priorities in the early stages of growth. It explores, describes and explains how growth affects a company and how a growing company can be managed (e.g. Davidsson & Wiklund, 2006; Wiklund, 1998).

Based on reviews of recent literature, there are many stages of growth models (see Levie & Lichtenstein, 2010; Muhos, Kess, Phusavat, & Sanpanich, 2010; Phelps, Adams, & Bessant, 2007). An analysis of the universe of such models published in the management literature would show neither consensus nor empirical confirmation of stages theory as many of these models/frameworks are purely conceptually based. However, there are also empirically based focused models, which seem to be more consistent. Support for the applicability of such models has been provided, for example, by the empirical tests of Hanks, Watson, Jansen, and Chandler (1993) and Kazanjian and Drazin (1990). However, less attention has been paid to the applicability of the models to different business contexts and to questions regarding context-specific aspects of 'the predefined stages'. On one hand, the early stages of technology-based ventures have attracted broad interest, but on the other, only a little attention has been paid to the early stages of service-based firms.

This study bridges the above-mentioned gap by examining the early stages of growth in service-based firms in a Taiwanese business context. The research problem can be condensed into the following research question: How do the experiences of managers in Taiwanese early-stage service companies relate to the assumptions of recent empirically based stage frameworks?

In this retrospective multiple case study, we devise a four-stage framework describing the early stages of service-based firms. The main findings of nine recent empirically based stage models focusing on service-based companies were synthesised into a self-evaluation framework (Muhos, Simunaniemi, Saarela, Foit Jr., & Rasochova, in review) in order to test the central findings of the models. This study is a preliminary test of the applicability of the framework, and it opens context-specific viewpoints. It is necessary to recognise these viewpoints when using this framework in this particular Taiwanese business context.

This study addresses scholars interested in the process perspective on company growth and development. It may also function as a useful guide for those responsible for company growth and development policies, those considering investing in a defined group of companies, and the owners and managers of growing companies. In the theoretical part of this study, the current state of configuration literature is discussed. In the empirical part of the study, the nine case companies in Taiwan are described, and their experiences of growth are discussed using the stage framework to identify parallel and context-specific viewpoints. Finally, this study analyses the applicability of the framework to the Taiwanese companies investigated and describes the context-specific issues.

2. EARLY STAGES OF GROWTH IN SERVICE-BASED FIRMS – THE SELF-EVALUATION FRAMEWORK

In this section, the early phases of growth in service-based businesses are described. The main phases of growth were earlier identified based on a literature review (see Muhos et al. 'n.d., forthcoming). This study devises the framework as a reference framework, based on a meta-analytical synthesis of recent, service business-focused, and empirical stages of growth studies (Auzair, 2010; Empson, 2012; Ferreira, Azevedo, & Cruz, 2011; Greiner & Malernee, 2005; Masurel & Van Montfort, 2006; Shim, Eastlick, & Lotz, 2000; Teeter & Whelan-Berry, 2008; Van Tonder & McMullan, 2010; Witmeur & Fayolle, 2011) and provides a starting point for opening context-specific perspectives on early stages. The stages of the framework include:

Stage 1: Start-up – Growth through market exploration and commercialisation of service(s)

Stage 2: Take-off – Growth through market acceptance

Stage 3: Resource maturity – Growth through profitability and renewal
 Stage 4: Diversification – Growth through diversification

The two earliest stages of the four-stage self-evaluation framework for early-stage service-based companies were devised in this analysis as a reference framework. The stages and the main assumptions of the framework are presented in Table 1.

Table 1: Early stages of service-based companies: The self-evaluation framework

Stage	Stage description/assumption codes
Stage 1: Start-up – <i>Growth through market exploration and commercialisation of service(s)</i>	(1-A1*) The service-based start-up is focused on the development and delivery of services and building market identity in order to survive. (1-A2) Decision-making is owner-dependent as owner-manager(s) lead a small group of employees. (1-A3) The structure is informal, simple, and owner-centred. (1-A4) Formal decision-making systems and procedures are almost non-existent. (1-A7) New businesses focus on attracting early customers, and (1-A6) the development and delivery of innovative services are everyone's job. (1-A8) Everyone is involved in everything in a small start-up. (1-A5) At this point, owner-manager(s) lack time for strategic planning. (1-A9) In terms of growth, the company moves from challenges to meet cash demands to cash flow that breaks even due to support from early customers.
Stage 2: Take-off – <i>Growth through market acceptance</i>	(2-A1) As market acceptance leads service-based business to rapid growth and constant change, the primary focus is on growth management. (2-A2) The owner-manager(s) maintain control but delegate responsibilities to a small management team. (2-A3) The structure of the firm is formalised gradually through task specialisation. (2-A4) The firm moves rapidly from basic decision-making systems to scalable systems that are compatible with the growing business. (2-A6) The firm delivers and scales services efficiently to meet increasing market demand as (2-A7) the number of sectors, activities, and client types increases rapidly. (2-A8) From an employee perspective, hierarchy and decreased involvement coincide with fast-track career opportunities. (2-A5) Strategic planning is focused on maintaining continuous growth. (2-A9) In terms of growth, market acceptance leads to fast growth and positive cash flow; cash flow and/or debt is used to finance growth.

*The assumptions are coded in the table as 1-A1 – 2-A9 (for example, 1-A1 equals stage 1, assumption 1)

The framework described above functions as a reference framework for this study. We use this framework to analyse and reflect upon the experiences of managers during the early stages of growth.

3. METHODOLOGY

The present research takes the form of a retrospective multiple case study. According to Yin (1989, p. 23), 'a case study is an empirical inquiry that: investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used'.

In this study, we analysed nine case companies in Taiwan using Sequential Incident Technique SIT and semi-structured interviews conducted during the end of 2015 and the beginning of 2016. The owner-managers of the firms were interviewed. The case study follows guidelines set by Yin (1989). In an overview of Critical Incident Technique CIT, Gremler (2004) recognises several variants of CIT, including SIT, which was created to take into account the sequential character of the process being studied (see Stauss & Weinlich, 1997). Case studies using SIT clarify the main stages of the process under analysis prior to the collection of data. This is advantageous if the process has already been defined empirically. In this study, the critical incidents are reflected in the sequential framework presented in the theoretical section. The case reports are based on nine separate case studies.

The main themes of the questionnaire and the interview are presented in Appendix 1. Before the actual interview, the first part of the questionnaire was sent to the CEO for filling in the company-related information (Part A1 of the interview). Parts A2, A3, and A4 were sent to interviewees to be filled in before the actual interview (Part B). Part B, the open interview, was carried out during the visit in the company, recorded, and transcribed. In the beginning of each interview, Part A was shortly discussed to form a stable ground for the interview and to ensure that the key terms were understood.

4. THE RESULTS OF THE CASE STUDIES

The cases are summarised in Table 2 below.

Table 2: The case companies (at the end of 2014)

Case	Established	Service	Number of	Sales	Assets
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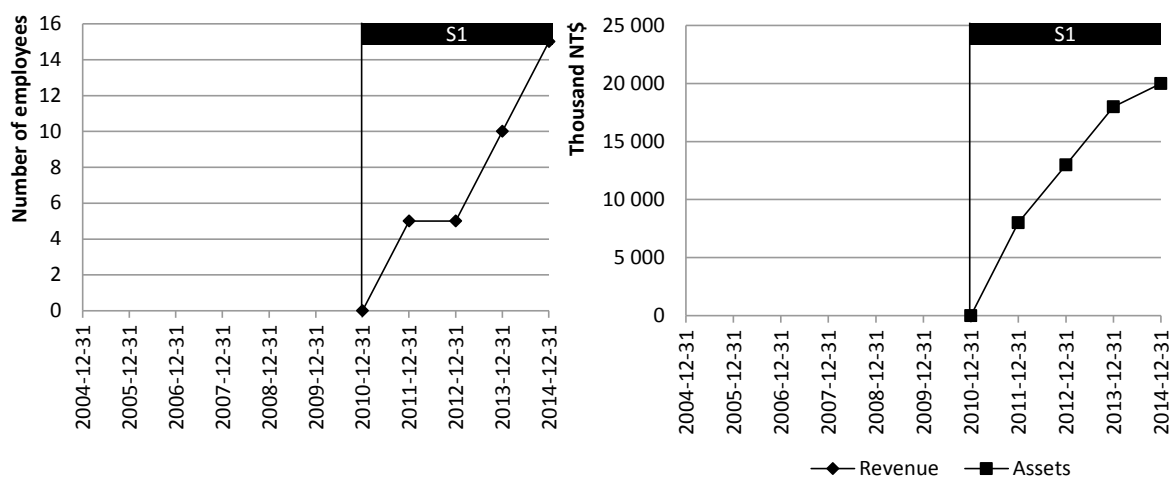
			employees	(Million NT\$)	(Million NT\$)
A	2011	Life-science OEM and ODM services	15	-	20,0
B	2007	Distribution service for health care products	17	43,2	-
C	2013	Life-science OEM and ODM services	40	5,0	-
D	2012	Distribution service for life-science products	16	20,5	5,5
E	2008	Health food OEM service	25	20,0	3,5
F	2005	Life-science OEM and ODM services	13	34,0	19,0
G	2011	Life-science OEM	9	7,1	12,0
H	2009	Life-science OEM and ODM	8	16,8	8,0
I	2005	Life-science OEM and ODM	5	16,0	17,5

In the following sections we analyse case-by-case the growth of these firms and present the critical incidents related to the early stages of growth. Aspects that are parallel and contradictory to the framework's assumptions are first presented in a quantified form in order to test the applicability of the framework to each case. Then, the contradictory aspects are analysed further to highlight potential context-specific aspects that should be taken into account in Taiwan.

4.1. Case A, a life-science OEM and ODM service provider

Case A is a life-science Original Equipment Manufacturing OEM and Original Design Manufacturing ODM service provider of skincare products. Case A was established in 2011, and by the end of 2014 had 15 employees and assets worth 20,0 million NT\$. Case A has reached the later part of the start-up stage. It has developed into a promising OEM and ODM service provider with established production in Taiwan and China. The concise growth history of Case A is presented in Picture 1.

Picture 1: Growth history of Case A



The critical incidents faced by Case A are presented in Table 3.

Table 3: The critical incidents faced by Case A

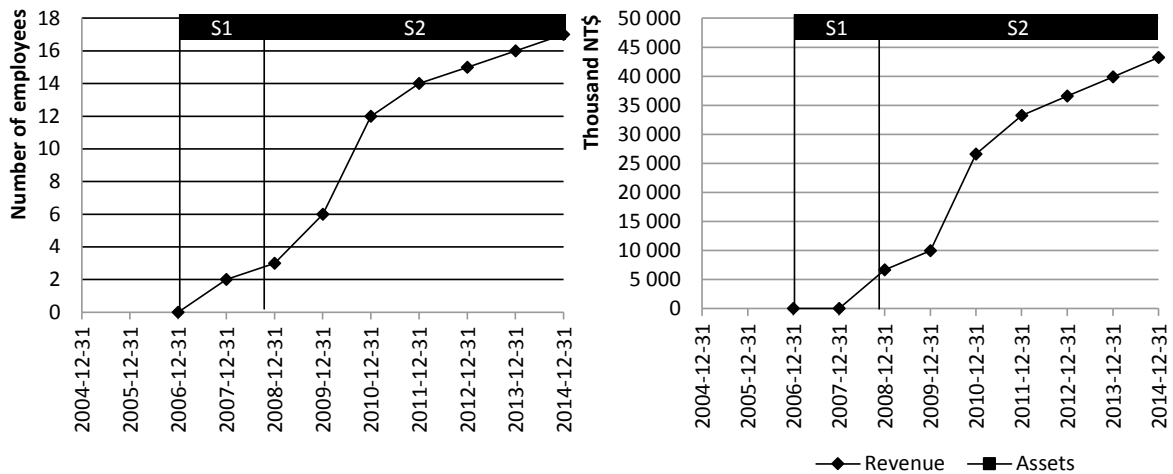
S1	A*	1-A1	1-A2	1-A3	1-A4	1-A5	1-A6	1-A7	1-A8	1-A9
	P**	2	-	-	-	1	1	4	1	1
	C***	-	2	4	-	-	-	2	1	-
S2	A	2-A1	2-A2	2-A3	2-A4	2-A5	2-A6	2-A7	2-A8	2-A9
	P	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes: S = stage number, A* = predefined assumptions, P** = no. of parallel aspects, C*** = no. of contradictory aspects, N/A = stage not reached yet

4.2. Case B, a distribution service for health care products

Case B is a distribution service firm focused on the health and wellness of senior citizens. Case A was established in 2007. By the end of 2014, it had 17 employees and yearly sales of 43,2 million NT\$. Case B has reached the later part of the take-off stage. The company has developed into a popular online distributor in its core segment of elderly care products. The concise growth history of Case B is presented in Picture 2 below.

Picture 2: Growth history of Case B



The critical incidents faced by Case B are presented in Table 4.

Table 4: The critical incidents faced by Case B

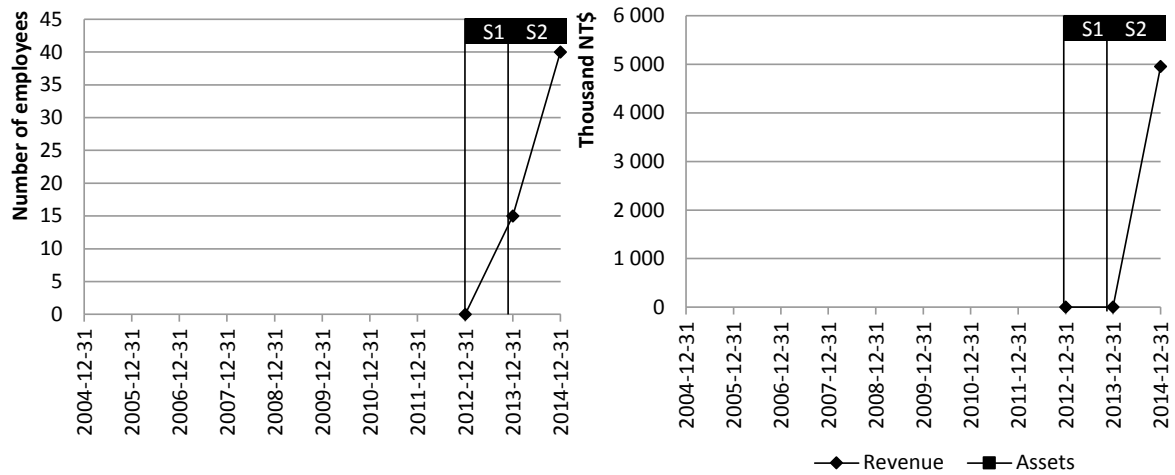
S1	A*	1-A1	1-A2	1-A3	1-A4	1-A5	1-A6	1-A7	1-A8	1-A9
	P**		2	3	-	-	-	1	2	3
C***		-	1	-	-	-	-	-	-	-
S2	A	2-A1	2-A2	2-A3	2-A4	2-A5	2-A6	2-A7	2-A8	2-A9
	P	4	2	1	1	3	3	2	-	3
	C	3	1	-	-	-	-	-	3	2

Notes: S = stage number, A* = predefined assumptions, P** = no. of parallel aspects, C*** = no. of contradictory aspects

4.3. Case C, a life-science OEM and ODM service provider

Case C is a life-science OEM and ODM service provider that was established in 2013. By the end of 2014, Case C had 40 employees and yearly sales of 5,0 million NT\$. Case C has, in a very short time, reached the take-off stage. By the time of the interviews, the company had developed into a rapidly growing service provider in its selected segment of biological life-science products. The concise growth history of Case C is presented in Picture 3 below.

Picture 3: Growth history of Case C



The critical incidents faced by Case C are presented in Table 5.

Table 5: The critical incidents faced by Case C

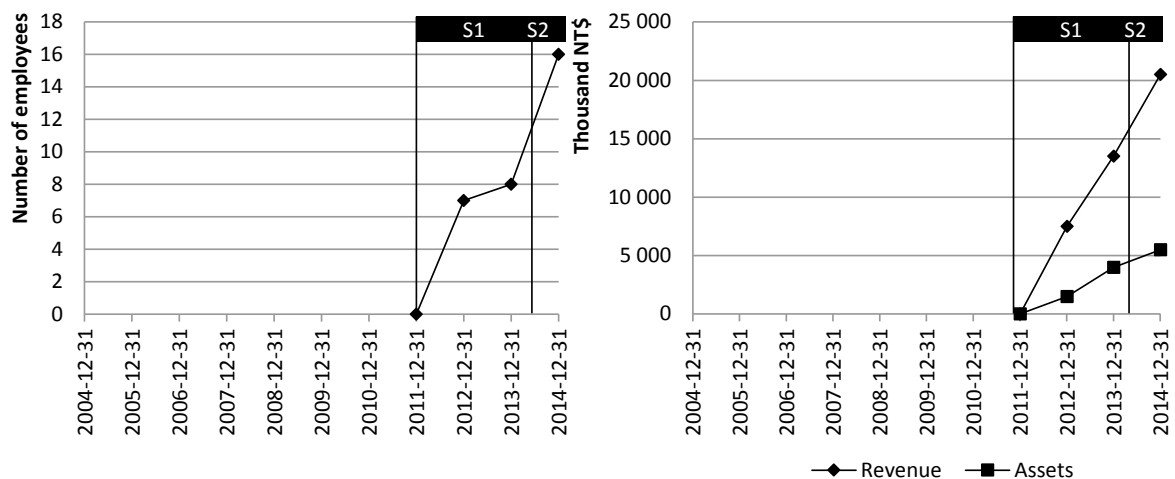
S1	A*	1-A1	1-A2	1-A3	1-A4	1-A5	1-A6	1-A7	1-A8	1-A9
	P**	3	-	3	3	-	1	1	1	1
	C***	1	1	-	-	-	-	-	1	-
S2	A	2-A1	2-A2	2-A3	2-A4	2-A5	2-A6	2-A7	2-A8	2-A9
	P	2	2	1	2	2	2	1	1	-
	C	-	-	-	-	-	-	-	-	-

Notes: S = stage number, A* = predefined assumptions, P** = no. of parallel aspects, C*** = no. of contradictory aspects

4.4. Case D, distribution service for life-science products

Case D is distribution service for life-science products. Established in 2012, by the end of 2014 it had 16 employees, yearly sales of 20,5 million NT\$ and assets worth 5,5 million NT\$. Case D has reached the take-off stage. By the time of the interviews, the company had developed into a rapidly developing distribution service provider in the segment of high-quality medical beauty care products. The concise growth history of Case D is presented in Picture 4 below.

Picture 4: Growth history of Case D



The critical incidents faced by Case D are presented in Table 6.

Table 6: The critical incidents faced by Case D

S1	A*	1-A1	1-A2	1-A3	1-A4	1-A5	1-A6	1-A7	1-A8	1-A9
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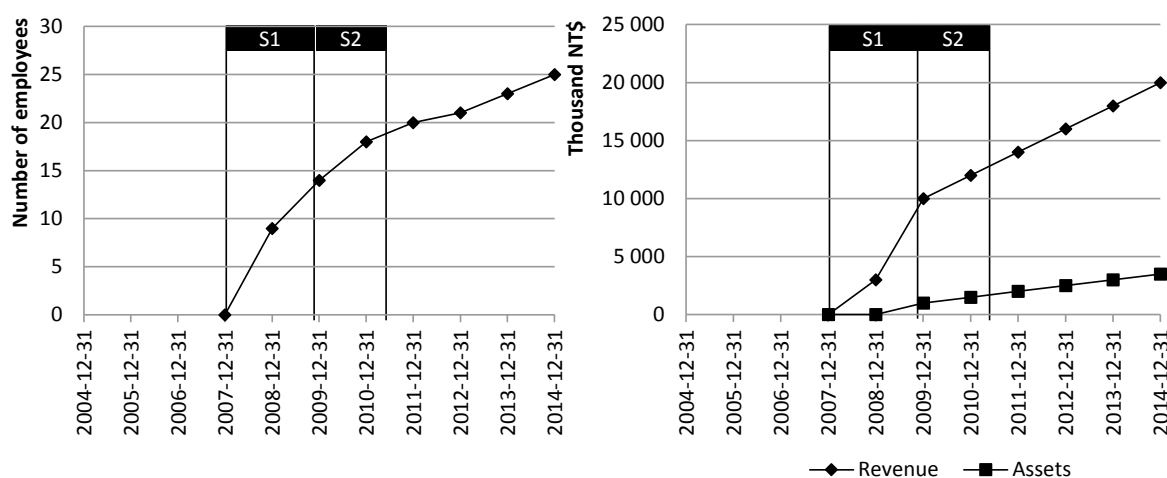
	P**	1	-	-	-	-	1	2	-	-
	C***	-	-	-	-	-	-	-	-	-
S2	A	2-A1	2-A2	2-A3	2-A4	2-A5	2-A6	2-A7	2-A8	2-A9
	P	3	-	2	-	-	1	2	3	-
	C	2	-	-	-	-	-	-	-	-

Notes: S = stage number, A* = predefined assumptions, P** = no. of parallel aspects, C*** = no. of contradictory aspects

4.5. Case E, functional food OEM service

Case E was established as an OEM business but in a different segment than it is competing in today. It was established in 2008, and by the end of 2014 had 25 employees, yearly sales of 20,0 million NT\$ and assets worth 3,5 million NT\$. Case E has reached the later part of stage 3. By the time of the interviews, the company had developed into a mature and high-quality functional food OEM in a growing market. The concise growth history of Case E is presented in Picture 5 below.

Picture 5: Growth history of Case E



The critical incidents faced by Case E are presented in Table 7.

Table 7: The critical incidents faced by Case E

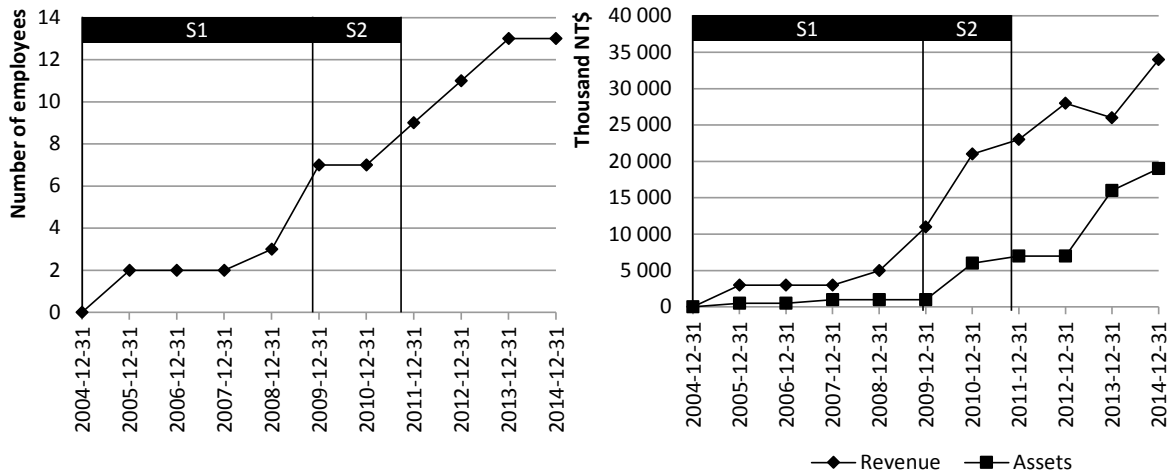
S1	A*	1-A1	1-A2	1-A3	1-A4	1-A5	1-A6	1-A7	1-A8	1-A9
	P**	3	1	1	-	2	-	1	-	1
	C***	1	-	-	-	-	-	-	-	-
S2	A	2-A1	2-A2	2-A3	2-A4	2-A5	2-A6	2-A7	2-A8	2-A9
	P	2	1	2	2	1	-	-	1	1
	C	-	-	1	1	-	-	-	-	-

Notes: S = stage number, A* = predefined assumptions, P** = no. of parallel aspects, C*** = no. of contradictory aspects

4.6. Case F, Life-science OEM and ODM services

Case F is a life-science OEM and ODM service provider focused on raw ingredients of life-science products, serving the pharmaceutical and nutritional segments among others. Case F was established in 2005. By the end of 2014, it had 13 employees, yearly sales of 34,0 million NT\$, and assets worth 19,0 million NT\$. Case F has reached the diversification stage. By the time of the interviews, the company had developed into a mature life-science firm searching for expansion through generation of new services and markets. The concise growth history of Case F is presented in Picture 6 below.

Picture 6: Growth history of Case F



The critical incidents faced by Case F are presented in Table 8.

Table 8: The critical incidents faced by Case F

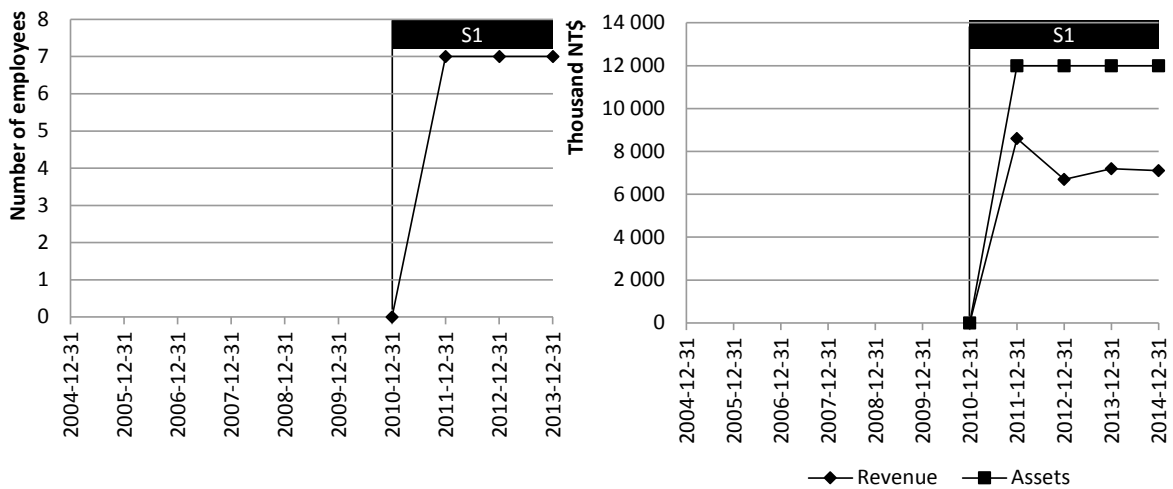
S1	A*	1-A1	1-A2	1-A3	1-A4	1-A5	1-A6	1-A7	1-A8	1-A9
	P**	-	1	-	-	-	1	1	-	-
	C***	-	-	2	-	-	-	-	-	-
S2	A	2-A1	2-A2	2-A3	2-A4	2-A5	2-A6	2-A7	2-A8	2-A9
	P	2	2	2	3	1	-	-	1	-
	C	-	-	-	-	-	-	-	1	-

Notes: S = stage number, A* = predefined assumptions, P** = no. of parallel aspects, C*** = no. of contradictory aspects

4.7. Case G, life-science OEM service

Case G is a life-science OEM service provider for biotech companies. It was established in 2011, and by the end of 2014 had 9 employees, yearly sales of 7,1 million NT\$, and assets worth 12,0 million NT\$. Case G has reached the start-up stage. By the time of the interviews, the company had developed into a promising biotech OEM in its segment. The concise growth history of Case G is presented in Picture 7.

Picture 7: Growth history of Case G



The critical incidents faced by Case G are presented in Table 9.

Table 9: The critical incidents faced by Case G

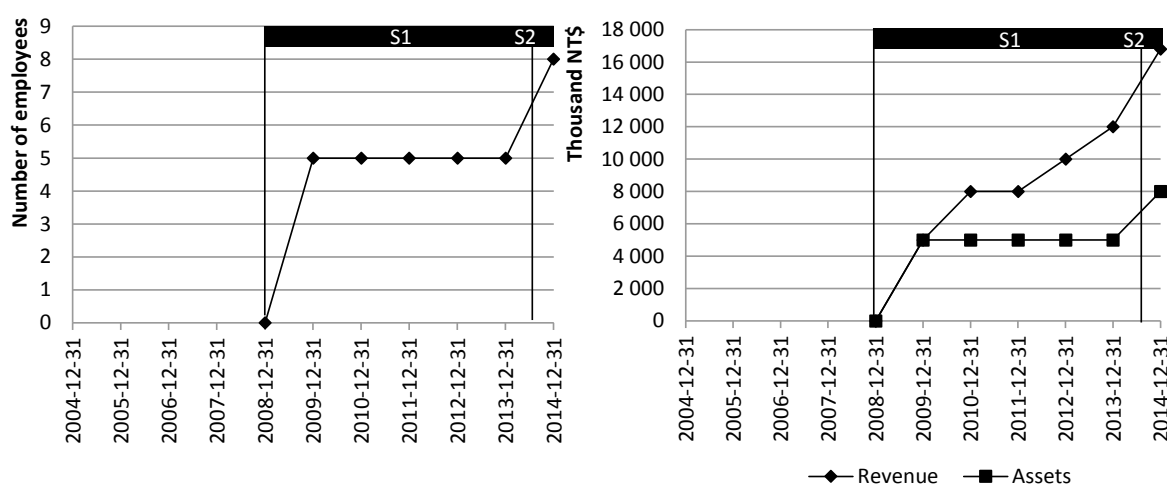
S1	A*	1-A1	1-A2	1-A3	1-A4	1-A5	1-A6	1-A7	1-A8	1-A9
	P**	1	2	1	1	2	1	-	-	-
	C***	-	2	-	3	-	-	1	-	-
S2	A	2-A1	2-A2	2-A3	2-A4	2-A5	2-A6	2-A7	2-A8	2-A9
	P	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes: S = stage number, A* = predefined assumptions, P** = no. of parallel aspects, C*** = no. of contradictory aspects, N/A = stage not reached yet

4.8. Case H, life-science OEM and ODM service

Case H is a new life-science OEM and ODM service provider that was established in 2009. By the end of 2014, Case H had 8 employees, yearly sales of 16,8 million NT\$ and assets worth 8,0 million NT\$. Case H has reached the beginning of the take-off stage. By the time of the interviews, the company had developed into a rapidly growing OEM and ODM in the segments of pharmaceuticals, functional food, and beauty care products, among others. The concise growth history of Case H is presented in Picture 8 below.

Picture 8: Growth history of Case H



The critical incidents faced by Case H are presented in Table 10.

Table 10: The critical incidents faced by Case H

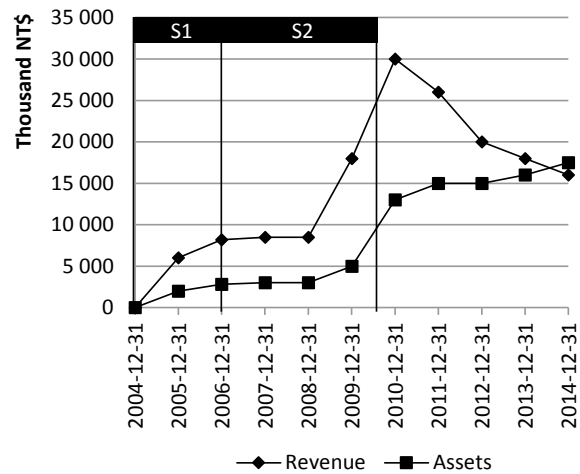
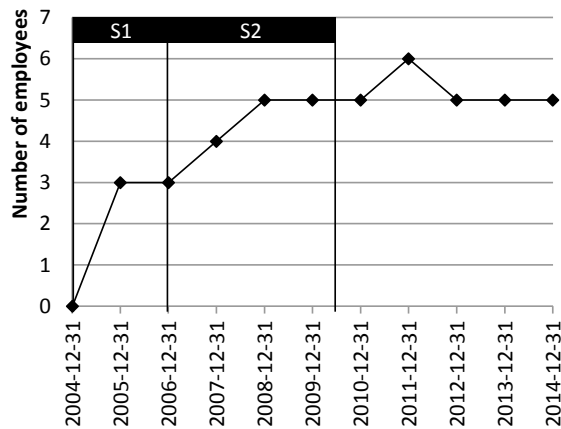
S1	A*	1-A1	1-A2	1-A3	1-A4	1-A5	1-A6	1-A7	1-A8	1-A9
	P**	4	1	-	-	-	3	2	-	-
	C***	-	-	-	-	-	-	-	-	-
S2	A	2-A1	2-A2	2-A3	2-A4	2-A5	2-A6	2-A7	2-A8	2-A9
	P	2	-	1	2	-	1	-	-	-
	C	-	-	-	-	-	-	-	-	-

Notes: S = stage number, A* = predefined assumptions, P** = no. of parallel aspects, C*** = no. of contradictory aspects

4.9. Case I, life-science OEM and ODM service

Case I is an OEM and ODM service provider for the health care and food sectors. It was established in 2005, and by the end of 2014 had 5 employees, yearly sales of 16,0 million NT\$, and assets worth 17,5 million NT\$. Case I has reached the resource maturity stage. By the time of the interviews, the company had developed into an experienced service provider focused on research, development, marketing, and delivery of high-quality OEM and ODM services. The concise growth history of Case I is presented in Picture 9.

Picture 9: Growth history of Case I



The critical incidents faced by Case I are presented in Table 11.

Table 11: The critical incidents faced by case I

S1	A*	1-A1	1-A2	1-A3	1-A4	1-A5	1-A6	1-A7	1-A8	1-A9
	P**	2	2	-	-	-	-	2	-	-
C***	-	1	-	-	-	-	-	-	-	-
S2	A	2-A1	2-A2	2-A3	2-A4	2-A5	2-A6	2-A7	2-A8	2-A9
	P	2	2	5	3	-	-	1	-	1
	C	-	-	-	-	1	-	-	-	-

Notes: S = stage number, A* = predefined assumptions, P** = no. of parallel aspects, C*** = no. of contradictory aspects

5. CROSS-CASE ANALYSIS

Altogether, 199 critical incidents were found in the cases. Of these critical incidents, 160 were parallel to the assumptions of the framework, and 39 were contradictory to the assumptions of the framework. A large majority of the incidents were thus parallel to the framework.

The number of incidents related to the assumptions of the framework for each case company is presented in Table 3.

Table 12 The number of incidents related to the assumptions of the framework for each case

Cases	Stage 1 No. of aspects		Stage 2 No. of aspects	
	Parallel aspects	Contradictory aspects	Parallel aspects	Contradictory aspects
Case A	10	9	N/A	N/A
Case B	12	1	19	9
Case C	12	4	13	-
Case D	4	-	11	2
Case E	9	1	10	2
Case F	3	2	11	1
Case G	8	6	N/A	N/A
Case H	10	-	6	-
Case I	8	1	14	1

***N/A = this stage not reached yet

As shown in Table 3, the majority of the incidents recorded were parallel to the framework in every case company. From that perspective, every case supported the framework to an extent.

Table 13 The total number of incidents related to each assumption of the framework

Assumption	Stage 1: Number of aspects		Assumption	Stage 2: Number of aspects	
	Parallel	Contradictory		Parallel	Contradictory
1-A1	18	2	2-A1	17	5

1-A2	10	7	2-A2	9	1
1-A3	5	6	2-A3	14	1
1-A4	4	3	2-A4	13	1
1-A5	5	-	2-A5	7	1
1-A6	11	-	2-A6	7	-
1-A7	13	3	2-A7	6	-
1-A8	5	2	2-A8	6	4
1-A9	6	-	2-A9	5	2

When the assumptions are considered, the same applies. In fact, every assumption of the framework found support from the cases analysed. The nine cases mostly supported the assumptions of the framework. The empirically based stage framework seems to form an effective tool for reflecting on and predicting the challenges faced during the early development of a company.

6. DISCUSSION

In this study a four-stage self-evaluation framework for early-stage service-based companies was devised. The stages of the framework include:

- Stage 1: Start-up - Growth through market exploration and commercialisation of service(s)
- Stage 2: Take-off - Growth through market acceptance
- Stage 3: Resource maturity - Growth through profitability and renewal
- Stage 4: Diversification - Growth through diversification

Table 1 presented in the second section details these stages. This study used a stage framework as a set of assumptions to test by means of nine case studies.

The applicability of Stages 1–2 of the four-stage framework was explored in this study; moreover, an explorative analysis of context-specific viewpoints was provided. It is necessary to recognise these viewpoints when utilising this framework in Taiwan.

Using the nine case studies, the authors answered the first research question utilising SIT. We analysed nine cases from Taiwan to test how the experiences of the managers related to the assumptions of the framework. The applicability of the framework was preliminarily tested in the context of Taiwan by analysing the number and content of parallel aspects in relation to the assumptions of the framework. The results are provided in Table 14 below.

Table 14: The two stages of the framework and the share of the case companies with parallel experiences

Stage	Stage description/assumption codes
Stage 1: Start-up - Growth through market exploration and commercialisation of service(s)	(1-A1) The service-based start-up is focused on the development and delivery of services and building market identity in order to survive. (1-A2) Decision-making is owner-dependent as owner-manager(s) lead a small group of employees. (1-A3) The structure is informal, simple, and owner-centred. (1-A4) Formal decision-making systems and procedures are almost non-existent. (1-A7) New businesses focus on attracting early customers, and (1-A6) the development and delivery of innovative services are everyone's job. (1-A8) Everyone is involved in everything in a small start-up. (1-A5) At this point, owner-manager(s) lack time for strategic planning. (1-A9) In terms of growth, the company moves from challenges to meet cash demands to cash flow that breaks even due to support from early customers.
Stage 2: Take-off - Growth through market acceptance	(2-A1) As market acceptance leads service-based business to rapid growth and constant change, the primary focus is on growth management. (2-A2) The owner-manager(s) maintain control but delegate responsibilities to a small management team. (2-A3) The structure of the firm is formalised gradually through task specialisation. (2-A4) The firm moves rapidly from basic decision-making systems to scalable systems that are compatible with the growing business. (2-A6) The firm delivers and scales services efficiently to meet increasing market demand as (2-A7) the number of sectors, activities, and client types increases rapidly. (2-A8) From an employee perspective, hierarchy and decreased involvement coincide with fast-track career opportunities. (2-A5) Strategic planning is focused on maintaining continuous growth. (2-A9) In terms of growth, market acceptance leads to fast growth and positive cash flow; cash flow and/or debt is used to finance growth.

Notes: **bold** = the assumption is supported by every case; **bold italic** = the assumption is supported by the majority of the cases; normal = the assumption is supported by a minority of the cases; *italic* = the assumption is not supported.

The results provide preliminary support for the applicability of the framework, as all of its assumptions are supported by one or more cases.

To conclude, this study formulated and preliminarily tested the first two phases of a four-stage framework describing the early stages of technology-intensive companies. The nine cases evaluated supported the assumptions of the framework. The empirically based stage framework seems to be an effective tool for reflecting on and predicting the challenges faced during the early development of a company. Moreover, this study revealed a number of context-specific viewpoints contradictory to the framework: companies in different contexts face culture- and context-specific issues in their early growth. Growth is a multidimensional phenomenon, and every early technology-intensive company is to some extent unique.

The case-study strategy using SIT proved effective for the open-ended analysis of early growth, taking the sequential character of the process into account. The construct validity of the study is based on a sound research plan, multiple sources of evidence, synergy between quantitative and qualitative data and an established chain of evidence. Analytic generalisation (generalisation to a theory) is possible in the case of building context-specific frameworks applicable to the Taiwanese context. The research focus of this study is partly limited to the context studied. The findings of the study cannot be directly generalised to other countries or business contexts, and they depend on the time of data collection. Reproducing the same case study in the same environment at a later time would change some of the findings. However, case-study protocol was followed and a database established, allowing further testing of the findings.

7. CONCLUSION

This study is one step in an attempt to clarify context-specific perspectives on the early stages of service-based businesses in different business contexts. The contradictory (fresh), context-specific viewpoints of the stage framework from a Taiwanese perspective should be clarified in order to provide more accurate support for health and life-science service businesses in the Taiwanese context.

In future studies, more contexts could be examined, and additional case studies in the context of Taiwan could provide more detail. These findings could also be further empirically tested (for examples of such tests, see Hanks & Chandler, 1994; Kazanjian & Drazin, 1989). Opening up other regional or industry-specific business contexts to a similar methodology would offer a broad range of opportunities for framework testing and for pointing out context-specific issues. It would be interesting to compare the results of similar analyses in other countries in future work. Moreover, the role of intermediaries in this challenging area requires closer examination. In order to support the growth of technology-intensive businesses and to remove structural and context-specific growth barriers, new knowledge and actions are needed.

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Appendix 1: The main themes of the questionnaire and interview

A. Preliminary part - in written form

A1. Interviewee-related information

A2. Company-related information

A3. Self-categorisation of the current stage of growth

B. Interview

B1. Introduction of the interviewer, universities and the purpose of the interview

B2. Overall description of company growth and the general effect of growth on person's own area of responsibility

B3. Description of the positive growth-related incidents in relation to stages of growth and the key problem areas

B4. Description of the negative growth-related incidents in relation to stages of growth and the key problem areas

B5. Conclusion
