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Strategic Analysis of Enterprise Resource Planning Software: A Case Study

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Abstract

Founded in 1987, Technology One (TNE) is an Australian founded but now international ERP company providing solutions to the Local Government, Education, Assets and Infrastructure, Finance, Health and Community sectors. Utilising a case study approach, this paper outlines a strategic analysis for TNE covering internal and external factors to understand its strategic choices, generic strategies and competitive advantage. The paper also discusses TNEs growth levers, globalisation approach, product and service innovation options. Application of the BCG Growth Share Matrix identified DXC Local Government, Timetabling and Scheduling, and Student Management as high-growth products for Technology One. Asset Management, Spatial, Supply Chain Management, and Property were classified as low-growth and potential divestment targets. The relevance of this research lies in its exploration of the mid-market ERP sector, a dynamic segment facing disruptions from cloud technologies and artificial intelligence. The audience for the study are managers or entrepreneurs developing a business strategy or investment professionals seeking to invest in the ERP market.

Keywords: Enterprise Resource Planning, strategy, BCG Growth Share Matrix, Porter's Five Forces, Software as a service, ERP, product portfolio analysis

Introduction

Enterprise Resource Planning (ERP) refers to the integration via software of a firm's operational, financial and supply chain information to create a unified view of information, processes and functions at a single point in time (Davenport, 1998). The software broadly presents in three flavours: generic - targeting a broad range of industries and requiring configuration before use, pre-configured - already configured to meet the needs of a specific industry and installed - which is the final form the software takes when provided to a user post amendment to a firm's requirements (Klaus et al, 2000). The attraction for firms is the removal of information fragmentation leading to operational efficiencies, cost reduction from not needing to maintain multiple systems (Davenport, 1998), process improvement and improved managerial decision making (Beheshti, 2006). However, as can be discerned, the cost of an ERP implementation is not simply limited to the software purchase. In-fact, several indirect costs such as process re-engineering, change management and training need to be considered along with acquisition, implementation, systems integration, data warehouse changes, annual licensing and ongoing maintenance expenses. Apart from the complexity of internal change, external consultants implementing the software might not always fully understand the industry and the firm's internal processes which creates an implementation risk (Glover et al, 1999). Off the shelf ERP software are particularly advantageous to firms whose competitive advantage

will not be lost through process standardisation, but are differentiated by their brand, product or other externally discernable factor (Davenport, 1998). Hence, a considered assessment of compatibility with a firm's strategy and business model must be undertaken prior to an ERP implementation (Beheshti, 2006). However, despite these complexities and challenges, the popularity of ERP software has not diminished and globally is forecasted to grow to a 71 Billion US Dollar industry by 2030 with Asia Pacific being the third largest region by market size (FBI, 2023). The Australian share of this market is comparatively small and estimated to be around 1 Billion USD (Statista, 2023) and contains a mix of small, mid-market, upper mid-market and multinational players with small and upper mid-market becoming dominant with the ability to move up and down customer segments with relative ease (Paff, 2020).

Founded in 1987, Technology One (TNE) is an Australian founded but now international ERP company providing solutions to the Local Government, Education, Assets and Infrastructure, Finance, Health and Community sectors. With revenues of 369 Million AUD in FY23, TNE has a presence in 14 countries and offers software sales, implementation and project consulting services. TNE offers over 400 software modules, a Software as a Service (SaaS) platform and currently averages around 5-6 modules per customer with growth potential from both existing and new clients (TNE, 2022). However, competition among suppliers, the advent of artificial intelligence, enterprise cloud, jurisdictional data security issues are some of the threats to expansion it faces. This research paper will conduct a SWOT analysis (Gürel, 2017) of TNE covering internal and external factors to understand its strategic choices and competitive advantage. The paper will also discuss TNEs growth levers, globalisation approach, product and service innovation and make recommendations for the future.

Research Objectives

● OBJ-1: Conduct a strategic analysis of the business strategy of TNE utilising appropriate management frameworks

● OBJ-2: Make recommendations for TNE in light of sustaining current and future competitive advantage

Research Approach

The central idea is that strategy is required to play a harmonising role between external factors and a firm’s internal strengths. Hence, the analysis and decision-making process within a firm can be thought of in terms of:

● The determination of an appropriate business strategy (Porter, 1996)

● The embodiment of that strategy as an activity system within a business model or multiple business models (Lanzolla & Markides, 2021)

● Ongoing macro or environment scanning to identify context, opportunities and threats (Anguilar, 1967), which a firm will be required to respond to.

● Execution via an operating model and implementation tactics that are consistent with identified SWOT (Gürel, 2017).

Initially, the SLEPT (Ortiz, 2010) factors relating to Australia, the home base of TNE will be analysed. Following this, the competitive intensity ERP industry will be discussed in terms of Porter's 5 Forces (Porter, 1996). We will then zoom in to firm-specific internal factors as we

discuss TNE's generic strategy (Porter, 1996) and outline its SWOT (Gürel, 2017) from the perspective of factors identified thus-far. We will conclude an understanding of the product mix of TNE, its growth drivers and provide recommendations using the logic framework of the BCG Growth Matrix (Reeves et al, 2014).

Literature Review

Slept Factors

The SLEPT framework is used to diagnose the relevant social, legal, economic, political and technological factors of a country or region for investment purposes (Ortiz, 2010). TNE derives more than 98% of its revenue from the Asia-Pacific market, within which Australia is its home base and largest market. Hence the SLEPT analysis focuses on Australia as the region under consideration and concludes that it is a favourable destination to invest in and run a business from.

According to the Department of Foreign Affairs and Trade (DFAT), Australia is home to the world's oldest living culture, with a population of 25 million people, about 30% of whom were born overseas. While geographically located in Oceania, English is the main language among its diverse population (DFAT, 2023). In 2021, Australia ranked as the world's tenth happiest country, known for its citizens' sense of personal freedom, social generosity, belief in institutions, and income equality (DFAT, 2023), with a nominal GDP per capita of approximately $60,000 USD (Data Commons, 2023). This social stability makes Australia an attractive place to work and live, likely continuing to draw human capital. According to the Heritage Foundation Economic Freedom Index, Australia ranks first for Financial Freedom and second for Trade Freedom (ATIC, 2023). It is also among the top ten countries globally for ease of doing business and market opportunities (EIU, 2023). Australia boasts a strong legal system, robust institutional governance, intellectual property rights, and low corruption, making it an appealing destination for business investment (World Bank, 2022). This strong governance environment increases compliance obligations for firms, benefiting Technology One (TNE) as its software can aid in process auditing and financial compliance. Thus, Australia's robust governance structures provide a rationale for clients to acquire ERP software like TNE's. The Australian Trade and Investment Commission (ATIC) notes that Australia represents 1.3% of global GDP with only 0.3% of the population, ranking as the world's 12th largest economy as of 2021 (ATIC, 2023) and enjoying high living standards, with a forecast of 7.6 million high-income households by 2030 (EIU, 2023). The economic impact of COVID-19, including increased household savings, stimulus packages, supply chain disruptions, and a falling unemployment rate, has led to rising inflation, which the Reserve Bank has addressed by raising interest rates. While the cost of debt capital has increased, the market capitalization of domestic companies has steadily risen since 2010, currently at $1.5 trillion USD (Data Commons, 2023), indicating firms' ability to access equity capital. Australia ranks fourth in the OECD for education spending (DFAT, 2023), committing about 2.1% of GDP in FY20-21, a sector where TNE focuses. Additionally, government health expenditure is around 4.8% of GDP in the same year (Australian Government, 2023), the sixth-largest expenditure per capita globally (ATIC, 2023). FY22 saw a 7% increase in actively trading businesses (Australian Bureau of Statistics, ABS, 2023). This indicates a prosperous country with a vibrant capital market, growth in business investment, and government investment in education and health, sectors TNE targets. Australia is a representative democracy with power shared between the

federal government, six states, and two self-governing territories. It is a low-tax country with tax collections at 29% of GDP, compared to 34% across the OECD (ATIC, 2023). Australia has fifteen free trade agreements with twenty-six countries, facilitating the free movement of people and capital across major economies (DFAT, 2023). The Parliament of Australia passed a bill in 2016 allowing for the depreciation of intangible assets (Parliament of Australia, 2016), including software development and R&D costs, which improves firms' working capital through tax credits. Therefore, Australia is politically stable, has favorable trade relations, and offers favorable tax treatment to the software industry. Australia has implemented a National Innovation and Science Agenda (NISA) and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to enhance its technological capabilities (DFAT, 2023). Australian universities produce highly ranked research in computer science, space science, physics, clinical medicine, and molecular biology. The technology sector is worth around 167 billion AUD, with about 2,500 high-tech startups in fintech, agri-tech, ed-tech, and med-tech, attracting global talent (ATIC, 2023). High-speed broadband is available to over 12 million homes and businesses (NBN Co Ltd, 2021), with over 8 million households reaching speeds between 25 to 97 Mbps (ACCC, 2023), and smartphone usage is projected to reach 87% by 2026 (Statista, 2023). The Australian Government has identified Artificial Intelligence (AI) as a technology of national interest, is part of a global AI partnership, developed an ethics framework for responsible AI use, and established an innovation hub within the CSIRO to further AI development (DISR, 2023). These policies support technology investment, an active tech sector, and the infrastructure to support growth.

In summary, Australia is socially stable and will continue to attract human capital as a desirable place to work and settle. Australia has strong institutional protections and its robust governance structures provide a rationale for clients to acquire products such as TNEs ERP software. Australia is a high-income prosperous country with a vibrant capital market, growth in business investment and government investment in two of the sectors, education and health that TNE focuses on. Australia is politically stable, has conducive trade relations with major economies and provides favorable tax treatment to the software industry. Australian government policy is supportive of technology investment. There is an active tech sector and infrastructure in place to support growth. Australia is a high-income prosperous country with a vibrant capital market, growth in business investment and government investment in two of the sectors, education and health that TNE focuses on.

Erp Industry

ERP systems can trace their lineage back to large packaged software that emerged in the 1970s (Klaus et al, 2000) that were designed for material requirements planning prevalent in the manufacturing industry (Beheshti, 2006). Formally emerging as a field of study in the 1990s, the goal of ERP is to break down silos between functional departments by integrating processes and information flow between them. The outcome of this integration is intended to deliver cost reduction, better managerial insight and improved responsiveness for customers (Mandal & Gunasekaran, 2003). An ERP system comprises several modules which are system representations of departmental processes unified by a common database and interchangeability of information between the modules via common definitions (Beheshti, 2006).

Despite the prevalence and relative longevity of ERP systems, successful implementation remains a challenge. Several scholars and practitioners have outlined various reasons for this including high costs stemming from process re-engineering, training and organisational change management (Beheshti, 2006), project management complexity coupled with the inherent technical intricacy of implementing the software itself whilst retiring other legacy systems (Mandal & Gunasekaran, 2003) and the imposition on the firm to change its own processes to adapt to the software (Davenport, 1998) rather than the other way around. From their origins in the 1990s, ERP systems are internet and cloud enabled, incorporating IoT data in real-time (McCue, 2020) and augmented with artificial intelligence (Groenfeldt, 2023). No longer the exclusive purview of large corporations, ERP systems are now implemented by small to medium firms as well (Georgiev, 2021) and come pre-configured for specific industry types which are an appealing option for a less risky implementation (Jepsen, 2023). However, the desire to reduce risk via standardisation must be carefully balanced with the need for differentiation and competitive advantage (Hammer & Stanton, 1999) especially where that advantage comes from service excellence (Davenport, 1998) since adopting similar processes packaged by the ERP vendor creates uniformity across competitors.

The ERP Market is not one size fits all and can be loosely classified as Micro-Small (eg: Quickbooks, MYOB etc), Mid-Market (Epicor, Technology One, Microsoft Dynamics GP etc) and Enterprise (SAP, Oracle, JD Edwards etc). It is useful to note that classification is dependent on the target market, the complexity and size of the client, not the ERP vendor (Paff, 2020). To further clarify, Microsoft is a global behemoth, but its ERP offering, Dynamics GP targets mid-market firms.

Asia-Pacific is a growth area for ERP systems, expecting to grow at around 10% to 2027 with defense, aerospace, retail, manufacturing and government sectors responsible for a significant portion of the growth. For mid-market companies with revenues under 1 billion USD, ERP total cost of ownership remains around 3-5% of annual revenue, however return on investment can occur within as little as 2.5 years assuming a smooth implementation (Biel, 2022).

In conclusion, ERP systems are here to stay. They face disruption or evolution via cloud technologies, artificial intelligence and ancillary workflow software; however, the benefits case remains intact. Providers that are able to solve the implementation dilemma and focus on particular market segments might hold an edge over their competition.

Strategic Analysis

Strategy can be defined as intentional choices to deliver value (Porter, 1996). From a firm's perspective, this manifests in policies and business approaches to attract customers, develop products, lower costs, neutralise threats, create value for shareholders and achieve business objectives. Apart from macro factors and the inherent nature of the industry discussed in previous sections, the competitive dynamic of a market greatly influences the degree of management activity required to successfully execute strategy. We carry forward our understanding of the ERP industry and Australia's macro position to assess the competitive dynamic of the mid-market ERP industry using Porter's Five Forces Analysis (Porter, 1998).

Porter's Five Forces Analysis

The key points of the discussion are summarised in Figure 2 that accompanies this section, however we conclude that competitive intensity is MEDIUM, the rationale for which is given below.

Competitive rivalry: MEDIUM

Unlike the Enterprise segment where only a few firms dominate, the mid-market segment has several players, some regional, some industry focussed who could all attempt to encroach upon each other's territory (Paff, 2020). Apart from this, the mid-segment faces risk from small-medium and enterprise segments moving up or down to take market share. However high switching costs for customers and strong industry growth means that vendors can achieve profitability by working within their established domains of expertise without resorting to competitive practices that are not profitable (Porter, 1998).

Threat of new entrants: MEDIUM

Although new entrants require significant capital and industry knowledge to build effective products, technology patents offer strong protection (ATIC, 2023). Sale cycle times are long, requiring deep pockets. Entrants from allied software industries such as HRM, CRM and financial products are able to enter on the strength of extending their product mix or acquisition and compete effectively (Paff, 2020).

Bargaining power of Buyers: LOW

In many cases, the business disruption and cost to switch is prohibitive for buyers. ERP total cost of ownership could be within 2-5 % of annual revenue (Biel, 2022) and at the lower end of that range, not sufficient to justify aggressive cost management. Buyers are diversified across industries and would not act as a consortium so hence lack collective bargaining power and although a hub-like configuration grouping several related parties together into a single ERP instance for cost-saving has been long discussed (McNurlin, 2001), the concept has never really taken off apart from conglomerates with a single parent.As customers' needs expand, they are likely to increase their footprint with the same ERP vendor for integration benefits and software licensing discounts that come from volume thereby increasing stickiness.

Threat of Substitutes: HIGH

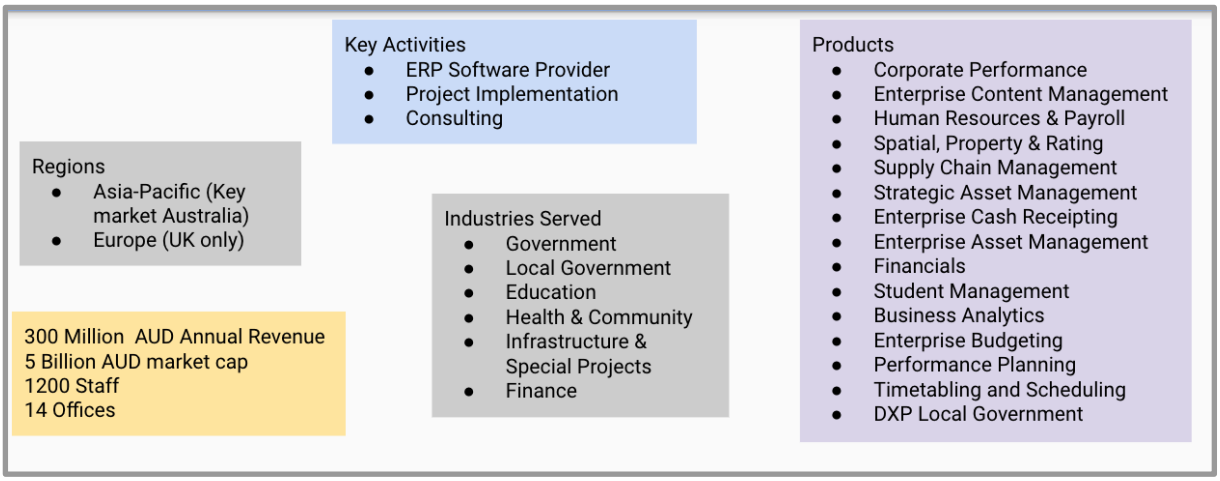
Enterprise cloud platforms solve the integration problem between diverse product suites from different vendors making it easier for customers to take a best of breed approach to enterprise systems (Paff, 2020). In practical terms, a customer could choose to have HRM, CRM and ERP software from different suppliers, select modules and link them together in the cloud. Substitution could also come from ancillary enterprise vendors such as CRM, HRM, workflow engines and Finance software providers who expand their offerings to include ERP functionality

Bargaining power of Suppliers: MEDIUM

In the ERP industry, suppliers are primarily data centre space, cloud licensing and manpower. A data centre move is difficult to execute and unlikely to occur without an out of ordinary triggering event such as a merger, regulatory pressure or a wider transformation initiative (Iqbal, A; & Colomo-Palacios, 2019). Cloud providers are an oligopoly and difficult to transition away from however for resilience reasons multi-cloud strategies are increasingly

being considered. Whilst each provider offers differentiation, the product features of the hosted software tend to rely heavily on the cloud architecture it is built upon which is what causes stickiness and duplication when managing multi-cloud (Ellis, 2021) which is undesirable from a cost perspective. Manpower is relatively easy to negotiate with cost arbitrage and large skilled labour pools available overseas.

About Tne



Overview

Technology One (TNE) is primarily an ERP software provider but also offers consulting, customer software development and project delivery built around its core offerings of enterprise back-office processes and supply chain to the education, government, health and community, assets and infrastructure and finance sectors (Philipson, 2017). TNE is present in Oceania, Asia and in the United Kingdom, 800 customers, 1200 staff, a market cap of $5 Billion AUD and annual recurring revenue (ARR) of around $350 Million AUD (TNE, 2023).

Market Positioning

Technology One is positioned within the mid-market segment, targeting medium sized organisations (Pass, 2020) that are not seeking competitive advantage from their ERP offering, rather a reliable platform to reduce costs and gain efficiencies. This rationale explains their selection of customer segments with government including local government comprising 50% and education next highest at 14.7% of global ARR (TNE, 2023).

Region	Customer Segment		
	Micro-Small	Mid-Market	Enterprise
Americas			
Middle East & Africa			
Europe		X*	
Asia-Pacific		X**	

TNE caters to mid-market clients in the following sectors
- *Government*
- *Education*
- *Assets & Infrastructure*
- *Health & Community*
- *Finance*

FY22 Profit before Tax (AUD) by region
**Asia-Pacific : $109.9 Million*
***Europe (UK) : $2.4 Million*

Figure 2: Market Positioning of Tne (Source: the Author, Adapted from Paff (2020)

Products and Services

From initially providing licensed on-premises installed software that could be integrated to a desktop client, TNE began to transition to cloud software from 2017 onwards (Philipson, 2017). The cloud software offering offers greater scalability for TNE, increases lifetime value of customers as they transition from license to subscription services and savings for customers as they are able to manage multiple licenses in a single account and save on hardware maintenance costs. The subscription costs can be CPI adjusted every year, thereby protecting TNE ARR from inflation. ERP implementation has been a challenge for customers (Davenport, 1998; Beheshti, 2006; Mandal & Gunasekaran, 2003) however TNE solves that problem by offering implementation, software development services and ongoing support as well. This is a unique differentiator for TNE as opposed to other global suppliers who typically sell products while execution and support is handled by implementation partners. The move to cloud has opened up the possibility of mobile-based end user tools, and TNE has been investing in this space to cater to evolving end user preferences involving digital experiences and personalisation outside a traditional office environment.

Products

Corporate Performance Management • Enterprise Content Management • Human Resources & Payroll • Spatial • Supply Chain Management • Strategic Asset Management • Enterprise Cash Receipting • Enterprise Asset Management • Financials • Property & Rating • Student Management • Business Analytics • Enterprise Budgeting • Performance Planning • Timetabling and Scheduling • DXP Local Government

Services

Solution as a Service • Ci Anywhere • Digital Experience • App Builder

Growth Drivers

With high recurring revenue, Technology One needs minimal capital to operate and hence is net cash positive, debt free and not participated in any capital raisings. Growth prospects come from product diversification and geographic expansion (Philipson, 2017). TNE will push its business orientated enterprise products while keeping cross-selling opportunities in mind.Growth from acquisition is possible, examples being Proclaim, a local government provider in 2000, Avand, an enterprise content management provider in 2000 and more recently in 2021- Scientia, an education software provider (TNE,2023). The trend is clear - a focus on companies with a similar client base for further cross-selling opportunities and an established product which could be transitioned into the ERP platform.

Geographic expansion has been slow, although there are now 157 customers in the UK with an ARR of 20.2 million. Net revenue retention is at 115% for half year FY23, low cost selling to existing customers with an open license 400 module suite available to Global SaaS ERP customers (TNE, 2023).

TNE has typically invested around 20% of revenue to research and development (R&D). With an offshore presence in Vietnam and Indonesia, TNE is able to service its client base with some labour cost arbitrage in addition to its Australian development hubs in Brisbane and Perth plus mitigate the risk of labour shortage with access to a large talent pool offshore.

Generic Strategy Analysis

The generic typology proposed by Porter (1998) is an approach to classify the strategies used by firms to gain competitive advantage. According to Porter, a firm could pursue a Cost Leadership strategy if its aim is to be most competitive on cost for an entire market. Similarly, a firm could choose to develop a product or service unique in features and design and then said to be pursuing a Differentiated Strategy. Finally, firms might choose to focus on a particular segment of a market and be cost competitive or differentiated for that segment, in which case they would be following a Focus Cost Leadership or Focus Differentiated Strategy (Porter, 1996 & 1998).

Based on this classification, TNE is following a Focus Differentiated Strategy. Focus is evident in the TNE strategy via the following deliberate choices:

● Remain within certain segments - government, health, education etc

● A focus on the mid-market segment

Predominant presence in Asia Pacific with only a recent expansion into the UK within the education industry strengthened by an acquisition, the Scientia time-scheduling software. (TNE, 2023)

Differentiation can be seen in the TNE strategy via:

● The decision to pursue consulting, implementation and support services as well. TNE call this Solution as a Service (TNE, 2022). This is a significant differentiator in a market where software product developers rely on implementation partners to run projects

● TNE offer bespoke software development services around their product mix (TNE, 2023) which allows customers that require solution differentiation to receive this option whilst still receiving support from TNE.

The newly introduced digital experience and CI Anywhere platform are areas where TNE seek to differentiate themselves, by extending personalisation and multi-channel experiences to ERP users (TNE, 2023).

Swot Analysis

Strengths

TNE captures value across the entire software development, implementation and support chain. This results in customers seeing TNE as a one stop shop and differentiates from other software providers who leave implementation to integration firms. This approach also diversifies TNEs revenue stream, work mix and helps to attract and retain talent since there are alternate work opportunities and revenue streams to draw from during economic cycles. TNE's software is critical to the proper functioning of business, government bodies and education bodies and once embedded within a customer's internal processes and infrastructure, difficult to dislodge. TNE runs a robust R&D practice, has 30 years of implementation history, intellectual property, brand and goodwill accumulated over this period (Philipson, 2017). Finally, the TNE business model is recession resilient since CPI costs can be passed on via subscription renewals every year (TNE, 2023). Also their target industries such as government and education are relatively recession proof. The introduction of mobile interfaces with personalisation, breaking free from

the desktop client and web browser increases the flexibility and end-user enjoyment of the solution.

Weaknesses

TNE is currently in the process of moving customers from its on-premises model to enterprise cloud. However, as a supplier they cannot control the timing of this transition and are reliant on customers selecting a time and situation that is convenient for them (Iqbal & Colomo-Palacios, 2019) For this reason, TNE is required to support its legacy ERP using overseas resources as well as the new Cloud SaaS solution. TNE does not have the same depth of R&D as some of the larger providers, which might mean they are not the first to introduce new product features and might not be the first choice of customers seeking competitive advantage (Jepsen, 2023) via differentiation.

Opportunities

The CI Anywhere product allows for multi-channel, multi-device access to ERP data from anywhere in the world. The new digital experience platform (DXP) offers via the mobile interface increased flexibility for users, content creation, communication, community building and cognitive technologies. The DXP platform allows governance related activities such as meetings to be conducted via a mobile interface with a pleasing end user experience. Also, the use of mobile and document management via the Avant acquisition creates opportunities for future cognitive technologies. For example, end users could take a photograph of a receipt and upload it to document management which affords the opportunity for location and event based artificial intelligence cognition technology. Other opportunities like in geographic expansion and growth by acquisition which is part of TNEs current strategy. The growing trend of ESG reporting presents opportunities to integrate supply chain sustainability information with their own processes to present a unified view to their shareholders and regulators of their carbon footprint (Odenwald & Berg, 2014). TNEs target markets especially Infrastructure & Utilities are likely to have regulatory pressure to report on ESG and this presents an opportunity for TNE.

Threats

TNE's risk primarily relates to data privacy and security issues, but this can be avoided by careful selection of cloud partner, R&D levels commensurate with industry and appropriate hardening of the software application stack. Data privacy regulation is complex given differing regulations in Europe, Asia and other international markets. Other competitive threats involve encroachment on market share from Enterprise ERP and Micro-Small segments, enterprise cloud platforms and the threat of disruption to its target industries via artificial intelligence. There is a risk that consortiums may form within the buyer community to establish a single instance ERP which the entire supply chain consumes (McNurlin, 2001). This is most likely to occur in the Government sector. However, TNE focuses on local government which tends to be fragmented at the council or municipal level, rather than Federal or State Governments and hence is less exposed to this risk. Finally, competition for skilled labour remains a challenge in the competitive technology industry, however TNE has established a strong brand (Philipson, 2017), Australia is a magnet for global talent (ATIC, 2023) and TNE has access to the labour market in Asia via its centres in Indonesia and Vietnam.

Product Portfolio Analysis

In 1970, Bruce Henderson of the Boston Consulting Group (BCG) released a paper called the Product Portfolio (Henderson, 1970). Also known as the Growth Share Matrix, this is a tool used to assess a firm's product portfolio and decide where to invest based on its market share and growth characteristics of the market (Reeves et al, 2014). Every firm needs a mix of products that generate cash, others that require cash investments to grow and eventually become a cash generator. Henderson's model market share was intrinsically linked to performance (Henderson, 1970). However, Reeves et al (2014) propose that this relationship is now decoupled and instead the ability to conduct strategic experiments and adapt quickly is more likely to predict sustained performance. In short, agility as a corporate capability is a required ingredient to obtain performance which is a proxy for generating strong cash flows. Bringing this all together, the types of products can be classified as:

- Stars - with strong cash flow, market leadership and growth opportunities,
- Cash Cows - with strong cash flow, market leadership but limited growth opportunities,
- Question Marks - requiring cash investment, no market leadership but with growth opportunity,
- Pets - requiring cash investment, no market leadership and limited growth opportunity.

According to Reeves et al (2012), there are four broad strategic styles based on the unpredictability of the environment and a firm's ability to influence these circumstances. The styles are: Classical - for predictable, unchangeable environments, Adaptive - for unpredictable, unchangeable environments, Shaping - for unpredictable, changeable environments and Visionary - for predictable and changeable environments. An analysis of TNE's product mix within its target industries within the Asia-Pacific region (TNE, 2022) reveals the following:

Industry	**Market Leader**	**% of ARR**	**Products**	**Predictable**	**Changeable**	**Selected Strategy**
Government	NO	15%	**Industry Agnostic** Corporate performance Management Performance Planning Business Analytics Enterprise Content Management	YES	NO	Classical
Local Government	YES	35%	**Industry Agnostic** Corporate performance Management Performance Planning Business Analytics Enterprise Content Management **Industry Specific** DXC Local Government	YES	YES	Visionary

Health & Community Services	NO	10%	**Industry Agnostic** Corporate performance Management Performance Planning Business Analytics Enterprise Content Management	YES	NO	Classical
Assets & Infrastructure	NO	8%	**Industry Specific** Spatial Supply Chain Management Asset Management Property & Rating **Industry Agnostic** Corporate performance Management Performance Planning Business Analytics Enterprise Content Management	YES	NO	Classical
Finance	NO	6%	**Industry Specific** Enterprise Cash Receipting Budgeting Financials Human Resources & Payroll **Industry Agnostic** Corporate performance Management Performance Planning Business Analytics Enterprise Content Management	NO	NO	Classical
Education	YES	26%	Industry Specific Student Management Timetabling & Scheduling Industry Agnostic Corporate performance Management Performance Planning Business Analytics Enterprise Content Management	YES	YES	Visionary

Consistent with the Visionary Strategy, TNE have rolled out their Digital Experience Platform (DXP) to their Local Government and Higher Education customers .CI Anywhere, a multi-channel, multi-device product is available to all ERP customers (TNE, 2022). The Visionary strategy is all about creating innovation ahead of expressed need, a built it and they will come approach (Reeves et al, 2012). The DXP and CI Anywhere solutions change ways of working offering multi-channel, personalisation services not available elsewhere. In other industries, TNE is following a classical strategy aka Focus Differentiation with Solution as a Service to reduce implementation risk, unique among its competitors. TNE has demonstrated ability to be adaptive having moved from on-premises ERP to SaaS, multiple re-engineering of its cloud software to a single global codebase, multiple successful acquisitions and introduction of new capabilities and features.

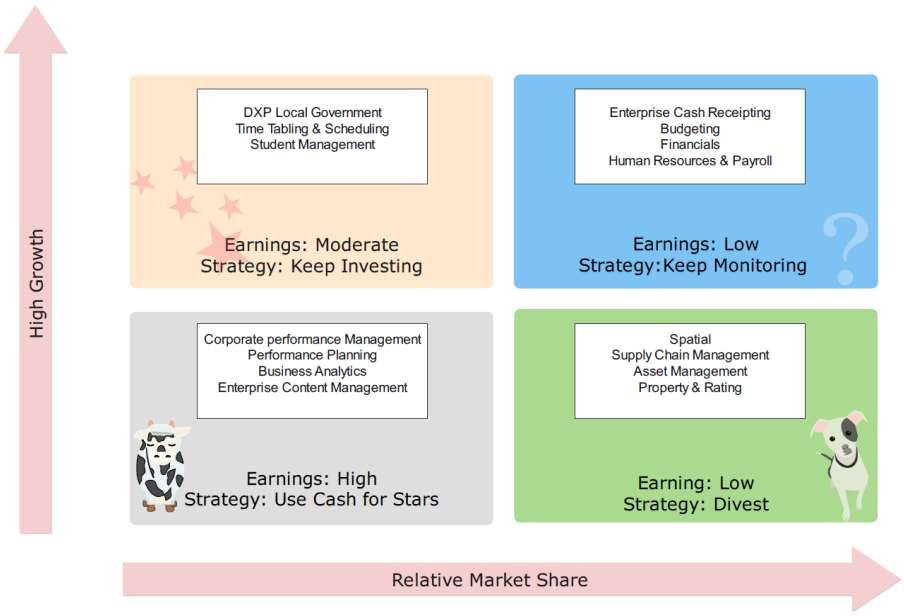


Figure 3: Growth Share Matrix (Source: the Author. Adapted From Henderson (1971)

Recommendations

Based on the planning frameworks outlined by Reeves et al (2012) and Henderson (1971), we present the following recommendations for TNE:

Stars

Continue to invest and accelerate the process of experimentation and adaptation especially in markets where TNE has a Visionary strategy - namely Local Government and Education. Although these industries are somewhat predictable, the business cycle change continues to shrink (Reeves at al, 2014) and agility coupled with shorter planning cycles are required for business success. The Star products in these industries include DXP Local Government, Time tabling & scheduling and Student Management. These products will require continued investment to achieve full potential.

Question Marks

Products like Enterprise Cash Receipting, Budgeting, Financials and Human Resources currently produce the lowest ARR and should be constantly monitored for profitability. They present growth prospects simply because Finance and HR are functions which every business needs and within the SaaS platform, taking up new modules for existing clients is frictionless. Also, they represent points-of-parity (Kotler & Keller, 2016) functionality for an ERP solution provider and necessary for category inclusion. However, they consume the same amount of corporate and development resources at a line of code unit level and should either convert to Stars in future or be retired.

Cows

Modules common to every industry such as Business Analytics, Content Management etc should be sustained for cash generating reasons. These modules provide an inherent capability which make the Stars and Question Marks more attractive via an ecosystem effect. As an

example, Content Management Capabilities are used in the DXP Local Government service for custom content creation and personalisation.

Pets

Products such as Spatial, Asset Management, Property and Supply Chain Management are specific to the Infrastructure and Special Projects Industries and currently produce low ARR. These products do not offer inherent capability, network effects nor are they generalisable to other industries. These products are candidates for divestment, however that decision should be considered from several angles including where there are opportunities to take learnings from the product (Reeves et al, 2014) and improve TNEs experimentation, delivery and portfolio management disciplines.

General Observations

TNE will be well served to continue to focus on R&D, product experimentation, co-designing new products and services with clients and cautiously expand into international markets where there are opportunities to do so in a capital light manner.

Conclusion and Future Opportunities

This paper conducted a strategic analysis of TNE, a mid-market provider of ERP software. The favorability of the macro-economic environment, competitive dynamics of the ERP industry were discussed as external factors. Zooming in from macro, the paper looked at TNEs generic strategy, individual strengths as a firm and product portfolio mix to discern where to continue to invest.

The methodology employed was a single case study relying exclusively on secondary data. The methods and approach used are clearly articulated, allowing for the approach to be replicated for other ERP vendors. There remains an opportunity to improve generalisability by expanding the study to other ERP vendors. Internal validity can be improved by increasing the depth, breath and variety of material used in the study by conducting interviews with TNE employees or experts in the ERP field at a future time.

The paper concludes with recommendations for TNE in terms of corporate capabilities to invest in and product mix investment choices. The approach and conclusions are relevant for financial analysts studying the industry or technology managers developing a strategic roadmap across a diverse stable of product offerings.

References

1) Aguilar F.j. (1967), Scanning the Business Environment, Macmillan: New York, Ny. Biel J. (2022). 60 Critical Erp Statistics: 2022 Market Trends, Data and Analysis. Oracle Netsuite. Https://www.netsuite.com/portal/resource/articles/erp/erp-statistics.shtml
2) Australian Competition and Consumer Commission (2023). Broadband Performance Data (Australia) [text]. Https://www.accc.gov.au/consumers/telecommunications-and-internet/broadband-performance-data
3) Australian Bureau of Statistics. (2023). counts of Australian Businesses, Including Entries and Exits, July 2018—june 2022 Https://www.abs.gov.au/statistics/economy/business-indicators/counts-australian-businesses-including-entries-and-exits/latest-release

4) Australian Trade and Investment Commission (2023) <why Australia> [electronic Version] the Issn Portal. Retrieved June 25, 2023, From Https://portal.issn.org/resource/issn/2205-9423
5) Beheshti, H. M. (2006). What Managers Should Know About Erp/erp Ii. Management Research News, 29(4), 184–193. Https://doi.org/10.1108/01409170610665040
6) Australian Government (2023). Issn 1326-4133 (Online) | Budget Paper | the Issn Portal. Retrieved June 26, 2023, From Https://portal.issn.org/resource/issn/1326-4133
7) Countryreports (2023) <countryreports> [electronic Version] Retrieved <sat. Jun, 24, 2023>, From Https://www.countryreports.org/country/australia.htm
8) Davenport, T. H. (1998). Putting the Enterprise into the Enterprise System. Harvard Business Review.
9) Davis, L., & Watts, R. (2022). What is Cloud Computing? The Ultimate Guide – Forbes Advisor. Forbes Advisor. Https://www.forbes.com/advisor/business/what-is-cloud-computing/
10) Department of Industry, Science and Resources (2023). Artificial Intelligence | Https://www.industry.gov.au/node/76015. Https://www.industry.gov.au/science-technology-and-innovation/technology/artificial-intelligence
11) The World Bank (2022) | Data Bank, Worldwide Governance Indicators. Retrieved June 26, 2023, From Https://databank.worldbank.org/home
12) Department of Foreign Affairs and Trade (2023) <about Australia> [electronic Version] Retrieved <sat. Jun, 24, 2023>, From Https://www.dfat.gov.au/about-australia
13) Economist Intelligence Unit (2023) <economist Intelligence Unit> [electronic Version] Retrieved <sat. Jun, 24, 2023>, From Https://country.eiu.com/australia
14) Ellis, B. (2021). Multicloud is Hard, but Single-cloud Failures Make It Necessary for Enterprises. Forrester. Https://www.forrester.com/blogs/multicloud-is-hard-but-single-cloud-failures-make-it-necessary-for-enterprises/
15) Fortune Business Insights (2023). Asia Pacific Enterprise Resource Planning Software Market 2030. Retrieved June 22, 2023, From Https://www.fortunebusinessinsights.com/asia-pacific-enterprise-resource-planning-erp-software-market-107424
16) Georgiev, Y. (2021). Critical Success Factors for Erp Implementation. Izvestia Journal of the Union of Scientists - Varna. Economic Sciences Series, 10(3), 93–100.
17) Glover, S. M., Prawitt, D. F., & Romney, M. B. (1999). Implementing Erp. Internal Auditor, 56(1), 40–46
18) Groenfeldt, T (2023). Microsoft Uses Ai to Improve Its Dynamics 365 Erp System.retrieved June 24, 2023, From Https://www.forbes.com/sites/tomgroenfeldt/2023/06/20/microsoft-uses-ai-to-improve-its--dynamics-365-erp-system/?sh=54f03f9d1d9f
19) Gürel, E. (2017). Swot Analysis: a Theoretical Review. Journal of International Social Research, 10, 994–1006. Https://doi.org/10.17719/jisr.2017.1832
20) Hammer, M., & Stanton, S. (1999). How Process Enterprises Really Work. Harvard Business Review.
21) Henderson, B. (1970). The Product Portfolio. Bcg Perspectives. Https://www.bcg.com/publications/1970/strategy-the-product-portfolio

22) Iqbal, a., & Colomo-palacios, R. (2019). Key Opportunities and Challenges of Data Migration in Cloud: Results from a Multivocal Literature Review. Procedia Computer Science, 164, 48–55. Https://doi.org/10.1016/j.procs.2019.12.153
23) Jepsen, C (2023). How to Choose an Out-of-the-box Erp That Gives Your Business an Edge. Retrieved June 24, 2023, From Https://www.forbes.com/sites/forbestechcouncil/2023/06/13/how-to-choose-an-out-of-the-box-erp-that-gives-your-business-an-edge/?sh=44459c5b72df
24) Klaus, H., Rosemann, M., & Gable, G. G. (2000). What is Erp? Information Systems Frontiers, 2(2), 141–162. Https://doi.org/10.1023/a:1026543906354
25) Kotler, P., & Keller, K. L. (2016). Marketing Management (15th Ed.). Pearson Education
26) Lanzolla, G., & Markides, C. (2021). A Business Model View of Strategy. Journal of Management Studies, 58(2), 540–553. Https://doi.org/10.1111/joms.12580
27) Mandal, P., & Gunasekaran, a. (2003). Issues in Implementing Erp: a Case Study. European Journal of Operational Research, 146(2), 274–283. Https://doi.org/10.1016/s0377-2217(02)00549-0
28) Mcnurlin, B. (2001). Will Users of Erp Stay Satisfied? Mit Sloan Management Review, 42(2).
29) Mcclue I. (2020). Erp: Through the Decades. Oracle Netsuite. Https://www.netsuite.com.au/portal/au/resource/articles/erp/erp-history.shtml
30) Nbn Co Ltd (2021). How We're Tracking: September 2021. Retrieved June 27, 2023, From Https://www.nbnco.com.au/corporate-information/about-nbn-co/updates/dashboard-september-2021
31) Odenwald, T., & Berg, C. (2014.). A New Paradigm for Managing Enterprise Resources. Mit Sloan Management Review, 56(1).
32) Ortiz, J. (2010). The Global Environment Through the Slept Framework. Int. J. Of Business and Globalisation, 5, 475–492
33) Paff, M. (2020). The Top 10 Erp Systems in the Australian Market. Value Adders. Https://valueadders.com.au/2020/08/the-top-10-erp-systems-in-the-australian-market/
34) Philipson, G. (2017). Technologyone: Portrait of an Australian Software Powerhouse. Technologyone.
35) Philipson, G. (2017). A Vision Splendid: The History of Australian Computing. The Australian Computer Society.
36) Porter, M. E. (1996). What is Strategy? Harvard Business Review 74, No. 6: 61–78.
37) Porter, M. E. (1998). Competitive Strategy: Techniques for Analyzing Industries and Competitors: With a New Introduction (1st Free Press Ed). Free Press
38) Reeves, M; Moose, S; Venema, T (2014). Bcg Classics Revisited: the Growth Share Matrix. Bcg Global. Https://www.bcg.com/publications/2014/growth-share-matrix-bcg-classics-revisited
39) Reeves, M., Love, C., & Tillmanns, P. (2012). Your Strategy Needs a Strategy. Harvard Business Review.
40) Statista (2023). enterprise Software—australia | Statista Market Forecast. Retrieved June 22, 2023, From Https://www.statista.com/outlook/tmo/software/enterprise-software/australia

41) Statista (2023). Smart Phone User Penetration in Australia | Statista Market Forecast. Retrieved June 22, 2023, From Https://www.statista.com/outlook/tmo/software/enterprise-software/australia
42) Parliament of Australia (2016). Tax and Superannuation Laws Amendment (2016 Measures No. 2) Bill 2016. Retrieved June 26, 2023, From Https://www.aph.gov.au/parliamentary_business/bills_legislation/bills_search_results/result?bid=r5685
43) Technology One (2023). Technologyone Website. Technology One. Retrieved June 22, 2023, From Https://technologyonecorp.com/
44) Technology One (2022). Technologyone Website / Annual Reports & Presentations. Technology One. Retrieved June 22, 2023, From Https://technologyonecorp.com/company/investors/annual-reports