

Coursework Submission Coversheet

College of Business, Arts and Social Sciences

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Table of Contents

1. Introduction.....	1
2. Presentation of the Company's business model and the evolution of the ecosystem	1
2.1 Analysing the company position and defining the Strategic objectives (CSFs).	2
3. Assessment of the current IS system, legacy Hardware, and Software	4
4. Appraisal of alignments techniques and identifying misalignment.....	4
4.1 Defining the new IS vision	6
5. The digital transformation proposal and guideline.	6
5.1 Initiative application and implications for the company	7
6. The impact of the transformation on CSFs and new value creation.....	9
7. Conclusion.	11

1. Introduction

COVID-19 has changed how the world operates (Westerman, 2021), and the property industry is no exception. There has been considerable attention paid to strategic and competitive uses of Information systems (IS) post-pandemic (Gartner, 2021). Enterprises are starting to realise that competition is no longer solely about prices, quality and productivity but instead accentuates the digital value enabled by the strategic use of IS.

This coursework attempts to analyse how a UK industry-leading enterprise in the property management sector, confronted with a lagging IS architecture and limited resources, could drive digitalisation to overcome the Productivity Paradox through IS transformation techniques and planning.

2. Presentation of the Company's business model and the evolution of the ecosystem

AnonymousR (anonymised company name) is a leading UK independent Residential Property managing agent employing approximately 2100 employees with a head-quarter located in Manchester. The Company has sustained a CAGR of 10% in London and Manchester over the last 15 years and aims to expand its markets nationwide. AnonymousR offers complete Property Management servicing residential and mixed-use blocks of all sizes and ages, from converted townhouses to newly built estates of thousands of homes. Clients include Residential Management Companies, Right to Manage Companies, Freeholders and Property Developers.

A qualitative approach was utilised through interviews to model the AnonymousR ecosystem and help gain a profound understanding of the company structure. Figure 1 illustrates AnonymousR business model as an adapted infographic of Osterwalder's business model canvas (Osterwalder and Pigneur 2011).

Canvas business model infographics



Figure 1: Osterwalder's business model canvas, adapted from (Slidesgo.com 2022)

The Company deliver its services through a renewable residential estate management contract. A core set of 10 third-party applications support the model; composed of Knowledge management systems (KMS), Customer relation management system (CRM), Enterprise resource planning (ERP), and Decision-support systems (DSS), with stable and robust mainframe and mid-range technologies, based on outsourced Software as a Service (SaaS).

AnonymousR rapid growth was supported by integrating independent software to facilitate the connections between the increasing number of stakeholders and business functions. AnonymousR, consequently, faced a significant challenge in supporting multiple independents systems. The rise in complexity was evident, especially with large enterprises that often function in silos because of historically rigid organisational structures, fostering an inward-looking culture (Fink et al., 2017).

Due to the lack of coordination, many perceived IS as burdening business responsiveness. Costs associated with the increasing number of interfaces were escalating to a point close to what is considered unacceptable, consuming almost 60% of the Company's IT budget by 2019. As Ward and Peppard (2002) outlined, IS in organisations are responsible for daily information exchange and plays an essential role as a competitive advantage in business.

2.1 Analysing the company position and defining the Strategic objectives (CSFs).

AnonymousR is a firm believer in continuous improvement. Best practices are a fundamental part of the Company's DNA. The company pride itself on consistently maintaining a close relationship with the changing nature of clients' needs while servicing with sustainability at the core of the business principle. Managing efficiently, staff motivation and financial prudence are also vital parts of the Company's strategic objectives. Pita et al. (2008) believe that a SWOT analysis is a critical step in identifying and assessing internal and external forces impacting the Company

S	W	O	T
STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Development & quality driven management team • Leading Brand • Specialised in Residential and have financial and HR expertise • Role of CIO is reporting to CEO • Willingness to develop IS 	<ul style="list-style-type: none"> • Limited capital • IS decisions are made using a financial measure • Organisations & Current IS operate in Silos • Mainly located in London and Manchester 	<ul style="list-style-type: none"> • Modern housing trending to a managed property (RICS, 2022) • No Industry Specialist Software • Over 250,000 new dwellings are expected each year (Gov.uk, 2022) • Prospect to expand nationwide 	<ul style="list-style-type: none"> • Macro level challenge due to changing market conditions (Gartner.com, 2020) • Cost-push inflation (Guardian.com, 2022) • New Building Safety act (Gov.uk, 2022) • Increasing reliance on technology. Cyber incidents

Figure 2: Humphrey's SWOT Analysis, adapted from (©Wordstream.com 2022)

Traditionally, the business assessed performance using financial profitability measures such as ROA or ROI. However, studies in business strategy recommend using multiple organisational performance measures because stakeholders such as customers, employees, shareholders, business partners, and senior managers all perceive IS differently (Marchand et al., 2002).

Critical success factors (CSFs), as defined by; Bullen and Rockart (1981), can be considered a more practical approach as it considers the SWOT analysis and aims to support the companies' strategic objectives (cited in Selvi and Bezawit, 2020). The implementation of CSFs following consultation with key stakeholders provides goals and benchmarks for the organisation. Figure 3 defines Growth, Customer service excellence, employee experience and efficiency as the critical priorities for the Company.

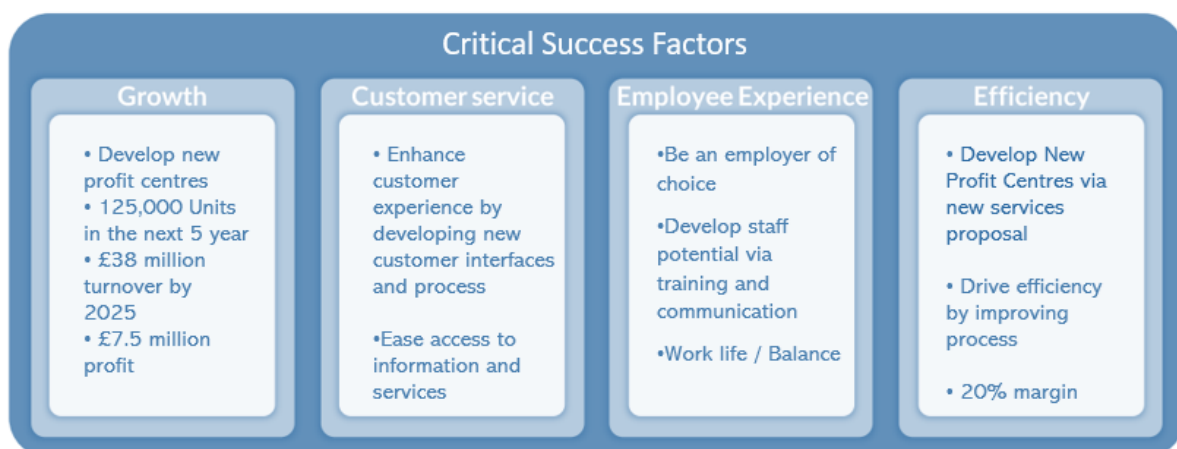


Figure 3: Bullen and Rockart 's CSFs, adapted to the company's strategic objectives

3. Assessment of the current IS system, legacy Hardware, and Software

AnonymousR did not show foresight in choosing the right IS architecture in a rush to incorporate new systems. IS decisions were made at department levels, with each department choosing hardware and software solutions based on their own needs and beliefs. As a result, the enterprise was left with a collection of complicated systems to integrate. These technologies, even today, provide some value to the firm, but their value diminishes since they cannot leverage other enterprise applications (Linthicum 2000; Banaeianjahromi, 2018).



Figure 4: Legacy hardware and software

As seen in Figure 4, AnonymousR had followed a point-to-point integration approach, building interfaces directly between the front-end and the back-end applications. Interfaces were replicated throughout the distribution channel, resulting in a complicated mass of interfaces. This point-to-point integration architecture caused several problems: Lack of business responsiveness being one of the major ones. The complexity of the application network meant that it was becoming increasingly more complex to isolate problems and manage risk. While the legacy structure had been tolerable in the past, the increasing competitiveness and fast-changing nature of the property management business meant that AnonymousR must revisit and revamp its architecture.

4. Appraisal of alignments techniques and identifying misalignment.

According to a study by Third Stage consulting (2021), strategic misalignment is the second most cited challenge experience by Executives and their project teams. In contrast with other areas of IS, there is debate in the literature about what alignment is, why it is needed, how organisations may go about becoming aligned, and how researchers should be structured. While there is little agreement on conceptualising alignment, previous research regularly laments the paucity of studies that assess how firms carry out alignment in practice (Avison et al. 2004).

Strategic alignment has many pseudonyms. It is also termed harmony (Luftman et al., 1996), fit (Porter, 1996), bridge (Ciborra, 1997), integration (Weill and Broadbent, 1998), fusion (Smaczny, 2001), and linkage (Henderson and Venkatraman, 1989). The model that did attract

the most attention in this area is the strategic alignment model (SAM) proposed by Henderson and Venkatraman (1993). According to the literature review, SAM is the most widely cited model (Vargas et al., 2007).

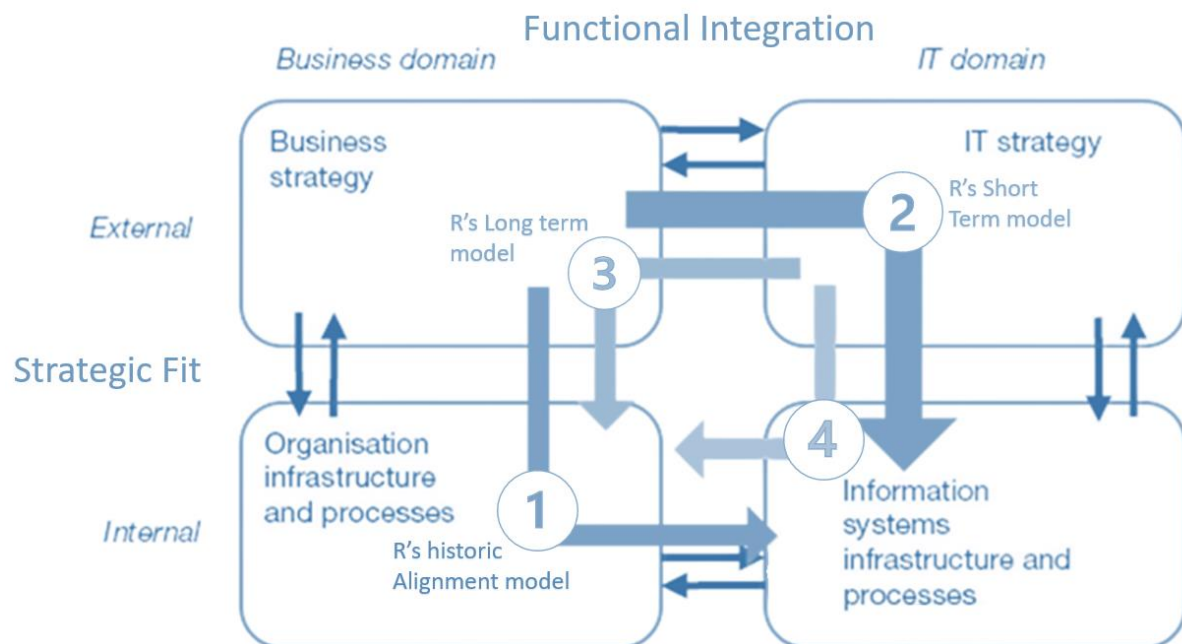


Figure 5: Henderson and Venkatraman's Strategic IT-alignment model, adapted from (©Ebookreading.net 2022)

As seen in figure 5, SAM maps the relationships between two main dimensions, strategic fit and functional integration, to measure linkage between four main quadrants; business strategy, IT strategy, operations/processes and the IS infrastructure (Henderson and Venkatraman, 1993). Historically, AnonymousR has adopted a strategic development approach (demonstrated by label 1, in figure 5), where senior management defined the strategy, which is then translated into Organisation processes, subsequently impacting on the IS infrastructures.

The lack of synopticity when approaching IS, and the business decision, has historically caused significant misalignment with the Company's strategic objectives. AnonymousR can optimise its IS potential by adopting a clockwise technology alignment (refer to label 2, figure 5). While business strategy stays the anchoring point, an IS vision is defined in line with the business strategy and subsequently implemented into organisation processes. This approach is supported by Piccoli, who argues that Strategic information planning is a partnership between the information systems specialist and the general and functional managers of the Company (Piccoli and Pigni, 2019). The successful applications of SAM can result in the organisational capability to leverage IS resources on a continuous basis to support competitive advantage in the marketplace.

Throwing money at instances of misalignment can be wasteful and misguided if the cause of misalignment is unrelated to IS investment. On the other hand, considered investment can unleash long-term benefits associated with a "high degree of fit and consonance between

priorities and activities of the IS function and the firm's strategic direction" (Piccoli and Pigni, 2019).

4.1 Defining the new IS vision

The need for new visions in the Company IS development methodology is urgent. Berman (2012) argues that the key transformational opportunities are creating new business models, improving operational processes, and enhancing internal and external experiences. Figure 7 illustrates how a new IS vision can support the Company in achieving its CSFs.



Figure 7: Bullen and Rockart 's CSFs, adapted to the company new IS vision

As seen in the figure above, the new vision support the key transformation opportunities outlined by Berman (Berman, 2012). Criteria for selecting a best-spoke planning methodology to implement the new vision requires discussion and clarification around resource availability, the complexity of the proposed techniques, and factors outlined by the SWOT analysis (Pita et al., 2008).

5. The digital transformation proposal and guideline.

AnonymousR now realises the pressing need to link 'the islands of applications' that have emerged because of divisional or functional silos (Sawhney, 2001). Hence, while the Company has historically focused on facilitating business by using applications, AnonymousR now faced the challenge of integrating applications designed to be standalone or integrated into minimal ways. As discussed in previous chapters, AnonymousR success should be synonymous with delivering the Company's CSFs.

Enterprise Application Integration (EAI) solutions growing popularity, outlines an alternative approach to solving AnonymousR integration challenges, in delivering its strategic objectives. EAI is referred to as a middleware that enables different ERP and CRM applications to interact with each other. From a business perspective, EAI allows unrestricted data sharing through a standard layer, thus reducing development and maintenance costs, time, and company resources (Lee et al., 2003; Khoumbati et al., 2005).

As illustrated in figure 6, Organisations can be either passive/defensive or active/reactive and offensive in their strategic approach to IT/IS (Nolan and McFarlan, 2005). The McFarlan grid is the most frequently used framework by board-level IS executives and governance researchers to operationalise the role of IS (Turel and Bart, 2014). According to Piccoli (2019) interpretation of the quadrant, AnonymousR is currently in the turnaround quadrant. The proposed digital transformation using EAI technologies will move the Company IS to the Strategic quadrant.

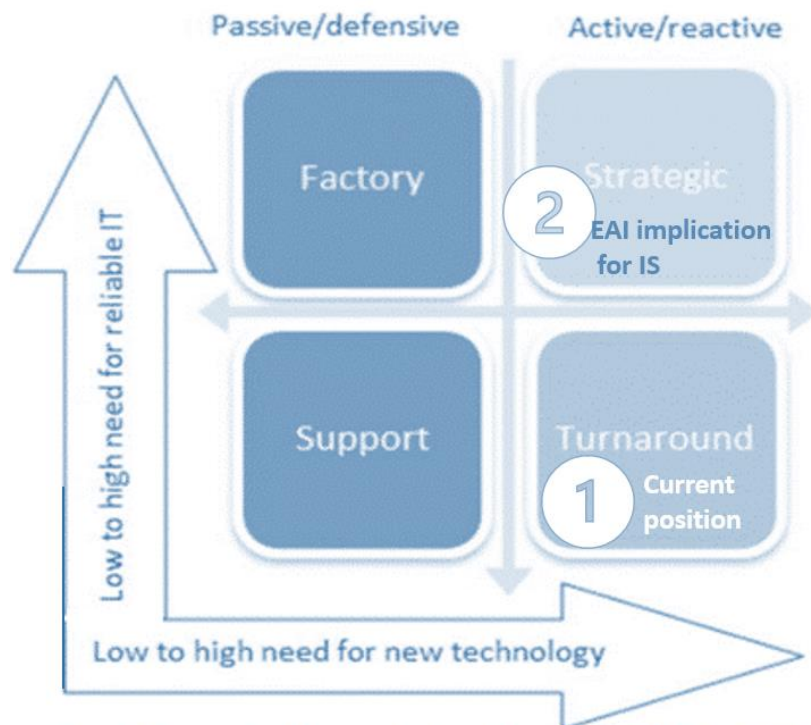


Figure 6: The strategic grid framework, adapted from (Nolan & McFarlan, 2005)

The company must operate efficiently and be flexible enough to respond to changing market conditions to remain competitive. To meet the first challenge, The CIO must actively seek ways to support more effective and accurate business processes and seek systems that the organisation can easily extend to meet new demands. EAI is a crucial technology to assist the Company in meeting this mandate (Gleghorn, 2005).

5.1 Initiative application and implications for the company

EAI provides methodologies, techniques and tools for the modelling and the application of integration solutions (Freire et al., 2019). Such solutions promote the applications' orchestration to keep data synchronised or add new functionality to what currently exists (Frantz et al., 2016). Enterprise applications combine internal and external information to present a coherent picture of the entire organisation (Laudon and Laudon, 2013). Figure 8 shows the Business architecture that EAI encompasses, processes spanning the entire organisation and, in some cases, extending beyond the organisation to external key business partners offering new functionalities.

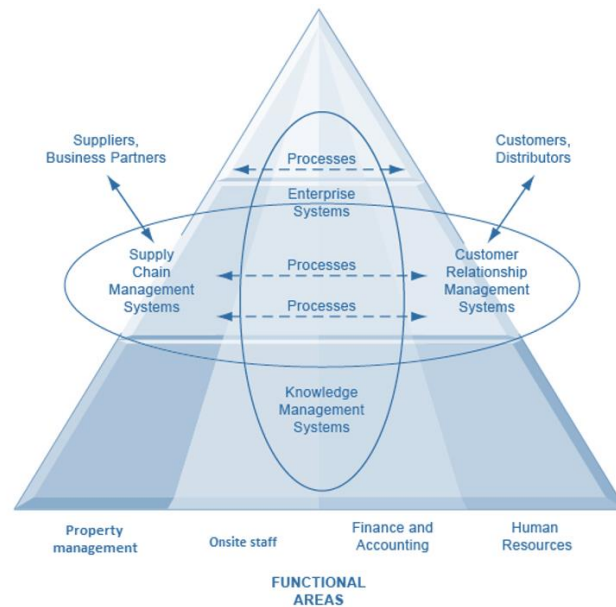


Figure 8: The company proposed business information system, adapted from (Laudon & Laudon 2013)

There are several reasons for AnonymousR to implement new functionalities as part of its vision. As mentioned earlier, cost pressures, organisational inefficiencies, and hype are all common catalysts for introducing new functionalities to the business model.

To deliver market-leading property management services and a high level of customer service with best-in-class margins, AnonymousR must consider developing efficient processes and new functionalities such as technology automation, reducing back-office processes to enable high-touch customer-focused services. The proposed transformation model to integrate legacy architectures was spanned over a five-year timeline to include Mid-term (for Quick wins and imperatives projects) and Long-term (for Trade-off projects) archetypes using an Initiative prioritisation matrix (Piccoli and Pigni, 2019), as seen in Figure 9.

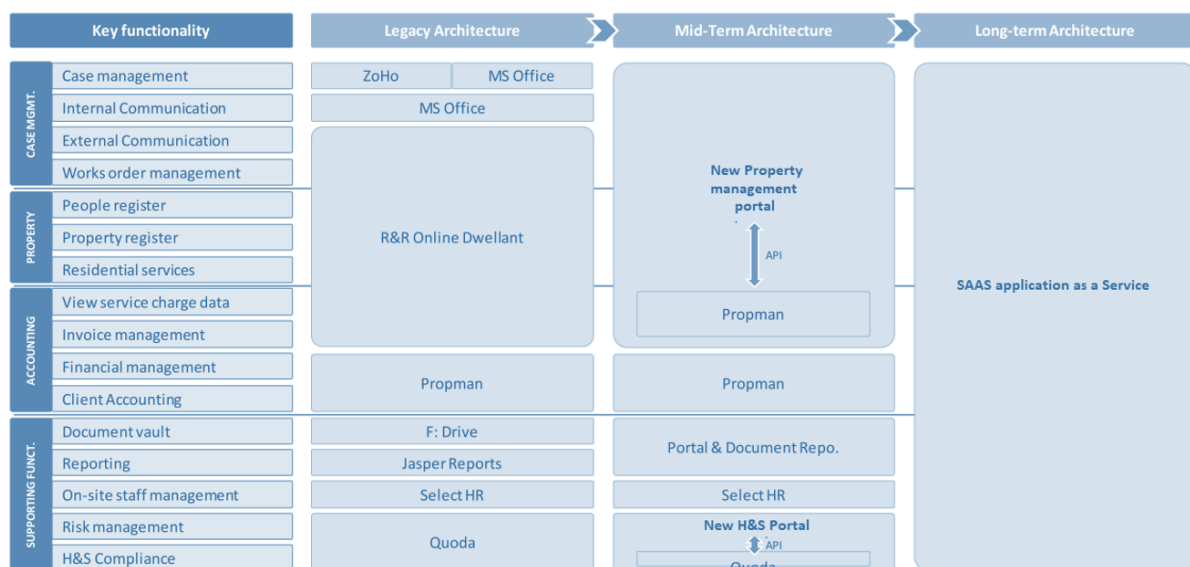


Figure 9: Digital transformation proposal from legacy architecture to Long term set-up.

The fast evolution of organisations and adoption of the latest technologies like Cloud computing gave birth to the concept of Cloud integration (Gerd and Naik, 2013). Cloud

integration can offer AnonymousR the scalability to allow for future expansion in terms of users, the number of applications, or both. It also reduces the dependency on IT and integrates SaaS applications faster. According to a report from Yahoo Finance (2022), Digital transformations through clouds have achieved a macroeconomic scale. The global platform-as-a-service (PaaS) market is expected to increase by USD 37.36 billion between 2020 and 2025. The market witnessed year-over-year growth of 22.96% in 2021.

From a business viewpoint, computing services to clouds and introducing EAI solutions can help the Company to achieve increased business agility and flexibility. The development of new services, through SaaS, PaaS, or Infrastructure as a Service (IaaS), could be quicker than the traditional approach (on-premises), and the delivery time is significantly reduced (Avram, 2014). Nonetheless, some challenges remain, such as the complexity, APIs Limitations, and scarce EAI engineering skills.

6. The impact of the transformation on CSFs and new value creation.

Morakanyane et al. (2017) believe that Digital transformation is: 'an evolutionary process that leverages digital capabilities and technologies to enable business models, operational processes and customer experiences to create value.' Research from Mahlamaki et al. (2020) argues that markets and societies are nowadays characterised by continuous connectivity and new forms of interaction. Digital relationships have become a dominant mode of creating value for B2B companies and are redefining engagement and resource integration. The implementation of Cloud EAI solutions by AnonymousR set the Company in a solid position to take advantage of those trends.

Respondents from a Microsoft survey (2017), claim digital transformation is an opportunity for growth, not a threat. The scalability of Clouds and EAI solutions, combined with the expertise acquired throughout the years, can enable the Company to diversify its service portfolio, to include SaaS. Adopting the competitive potential approach from the SAM model as seen in figure 5 (Refer to label 3), will generate a new form of clients and revenue. This approach implies the need for a change in IS orientations from an exclusively internal focus to one that fits strategically with the external IS environment (Issa-Salwe et al., 2010). This new distribution channel enabled by the transformation process can positively contribute to the Company's ROI and Growth CSF (as outlined in Figure 11).

As argued earlier, the business context has significantly changed in recent years, especially with the advent of digital technologies that are now transforming the structure of social interactions in business relationships (Pagani and Pardo, 2017; Zaki, 2019). The Company's reimagined 'Digital experience' through new functionalities that deliver added value by engaging clients and customers in natural, highly personal, and innovative ways can drive customer experiences positively and add qualitative value to the Company's Customer service's CSF.



Figure 11: New value creation to Bullen and Rockart's CSFs

Kane et al. (2015) state that employees across different age groups want to work for organisations deeply committed to digital progress. Company leaders need to bear this in mind to attract and retain the best talent. Additionally, transforming the business processes and adding automation can help employees to achieve better "Life vs Work" balance, contributing to the internal perceived added value of the digital transformation proposal.

The Application of EAI within the property management industry offers a different set of attributes than the technology currently used, and the performance improvement rate enabled by the technology outclasses the improvement demanded by the market. Given the industry's context, the implementation of EAI solutions can be considered a disruptive technology as it encompasses the characteristics outlined by Piccoli (Piccoli and Pigni, 2019).

Figure 12 illustrates the quantitative value created by EAI solutions (as a disruptive technology) on revenue and cost structures. As seen below, profit margins are expected to increase to achieve a 20% margin due to the reduction in staffing costs enabled by the digital transformation (Scenario 2) instead of the lower margin in Scenario 1 (Which illustrates Revenue and Cost forecast without digital transformation).

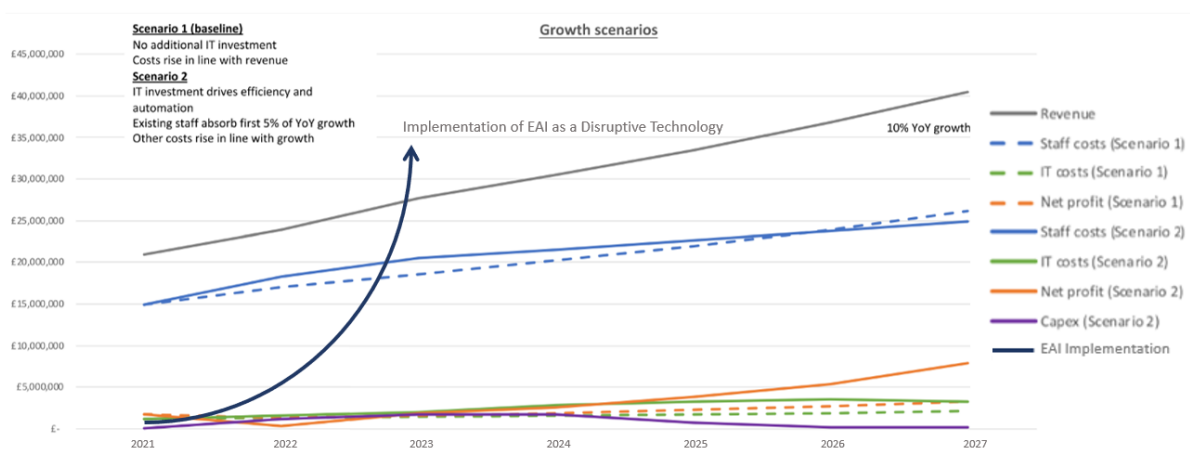


Figure 12: Illustrates the quantitative impact of EAI implementation on AnonymousR

7. Conclusion.

This coursework has analysed the potential technical and organisational implications that digital transformation could imply for AnonymousR, despite the limitation caused by the limited availability of resources. Transitioning from CAPEX to OPEX is one of the main benefits of using cloud and EAI solutions.

To be successful, the Company must focus on factors identified through the CSFs process, as there is a constant risk that the organisation is merrily improving processes while the overall process landscape stays just as disjointed and inefficient as before. The Transformation management leads must remember that it is about a business transformation plan, not just a tech delivery roadmap. While choosing the best-fitted methodology depends on the Company's historic architecture, resources availability, governance, and factors outlined by the market analysis. Success must be measured by how effective the Company uses the proposed methodologies and techniques to align with its strategic objectives.

Limitations to the case study lie in the scarce supporting data to quantify the tangible perceived benefits of the IS transformation to stakeholders. Nonetheless, the evolutionary trend in technology and the flexible structure of the organisation in incorporating change are promising features for a successful implementation.

List of Acronyms:

API: Application programming interface

B2B: Business to business

CAGR: Compound Average Growth Rate

CAPEX: Capital Expenditure

CEO: Chief Executive Officer

CIO: Chief Information Officer

CRM: Customer relation management system

CSF: Critical Success Factors

DSS: Decision-support systems

EAI: Enterprise Application Integration

ERP: Enterprise resource planning

IAAS: Infrastructure As A Service

IS: Information systems

IT: Information technology

KMS: Knowledge management systems

OPEX: Operation Expenditure

PAAS: Platform as a service

SAAS: Software as a service

SAM: Strategic alignment model

SWOT: Strengths, Weaknesses, Opportunities, and Threats

UK: United Kingdom

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