Strategic Choices for the Post Pandemic Playbook

Dr Garry Blair, Stuart Barratt and Dr Rosane Pagano
Manchester Metropolitan University, Manchester, United Kingdom

Abstract: This paper focusses on the use of technology to support business, with particular emphasis on the strategic choices to be made by organisations, during and after the pandemic. IT strategy embodies a vision of the organisation's future technology delivery. IT strategy formulation is a critical activity for the modern organisation. The strategic imperative is to complement and enhance the delivery of the prescribed business objectives. The 'fit' has to be considered in order to orient the organisation to survive, at minimum, and ideally thrive in the prevailing environment [1]. The consequences of an inappropriate strategy in this area could be catastrophic, leading to the termination or truncation of business, in the sphere. The rise of Microsoft, for example, in the 1980's was facilitated by IBM's miscalculated strategic decision to allow the personal computer operating system to be licensed to a third party, incorrectly assuming that their market dominance was unassailable [2].

Strategic profiling is enacted, namely utilising key characteristics to provide generic classifications for organisational analysis. Environmental and internal elements are considered in order to propose a set of strategic types, in respect of Information Technology utilisation. This facilitates analysis and appraisal of the strategy in the environmental context.

The principal tenets are considered, to assist with the formulation of IT strategy in an organisation. These are: Human Resources; Organisational Structure; the Environment; Methodology; Contingency; Business and Technology focus. Options are considered in respect of the critical area of Human Resources, in terms of the main activities of selection, recruitment, appraisal and training. The nature of contractual decisions is outlined, embracing the range of strategic options from contracting work to other organisations to employing in house staff. The alignment of the organisational objectives and IT strategy is also examined. The critical elements of such alignment are identified and a framework for evaluation proposed. Alignment along the dimensions of structure; partnerships; objectives and philosophy are detailed regarding this aspect.

The accommodation of different organisational products into an IT strategy is also described. Strategic decisions can be made that embrace a range of products at different stages of their lifecycle. The need for long term planning in this area, to optimise research and production effort, maximising potential revenue, is thus incorporated.

This paper utilises an analysis of key themes from selected literature sources and an empirical study of UK public sector health organisations. The latter comprised a survey, conducted to discern trends and highlight differences in strategic approaches within a sample from this sphere. This research is used to verify the conclusions of the paper. The contrasting methods are characterised by the 'profiles' to assist in understanding IT/Business strategy formulation and appraisal. These are proposed as generic devices that could be applied generally to enhance knowledge acquisition in other sectors.

Keywords: Information Technology, IT Strategy, Strategic Alignment, Outsourcing

1. Introduction – Definition:

IT Strategy can be defined as 'a plan of action designed to achieve long term aims for the methods, systems and devices used by an organisation to deliver its objectives.' (based on Needle [3]). This comprises the use of technology to support the business in its environment and tends to be long-term in its perspective, typically between 3 and 5 years with annual reviews. It is usually a key enabler for the business and can be the principal driver in a technology-based enterprise. It is dependent on the nature of the organisation and the actions of others in the same sector, including government, competitors and suppliers. IT Strategy may include regulatory compliance and comparison with other organisations via industry metrics. The financing of the strategy should be included, considering internal and external resourcing, including grants, loans and donations.

2. Ensure All the Elements of Strategy are in Place:

The IT Strategy should include the following elements: hardware; software; network; form of organisation; methodologies and configuration. The main purchases, updates and disposals of technology should be detailed in the strategic plan. All items that

require substantial resources or are of strategic importance should be included, in respect of both hardware and software. The network, both internal and external connections, needs to be considered as a vital resource and all key activities included in the strategic plan. The network is central to the delivery of value for the organisation, in terms of leveraging the technology. The form of organisation is a factor, for example the use of traditional, hierarchical teams or more empowered, flatter structures (Scrum teams, for instance) or some combination of the two. Investment in these forms and changes to such methods of organisation are strategic decisions, influencing the delivery of technological objectives. The use of project planning tools and techniques also needs to be considered. The project management methodology employed should fit the organisation and product or service delivery. This varies from traditional to Agile methodologies, also including a form of hybrid, combining elements of both types. Investment in and changes to these techniques will constitute additions to the IT Strategy. The configuration of the technology and organisation of delivery will form part of this strategy.

3. Decide on What to Outsource:

An important consideration is whether to recruit and use an in house technological resource or to buy this from an external provider. There are a range of options in this sphere - from develop to purchase; recruit a partner; and outsource. The relationship here, thus, varies from one of ownership and employment to delegation and, hence, forming a credible contract with the outsource provider. The objective is to decide on the optimum mix of outsourcing and in house development. The organisation needs to consider the value chain and decide on core and non core tasks, in respect of technology. The former define the unique aspects of the business and should be retained in house. This includes any strategic resources, such as key technical knowledge. The non core items can be outsourced, if there is a strategic advantage of this action, such as cost or expertise. The latter provides the motivation for the delivery of these tasks by an external provider.

The categories of decisions here are, Recruit and train in house staff to operate and develop technical resources; Purchase this expertise via package software, for example, and maintenance contracts or hire contract staff to do this work;

Form a partnership with another company to maintain and develop these resources in an alliance of mutual self interest, based on an informal or formal contract;

Outsource the technology function to a provider who takes responsibility for service delivery here, determined by a contractual relationship (possibility using a tender process to select this company) [4].

4. Focus on Human Resources:

The recruitment, training, promotion and reward of staff is central to an IT Strategy. The creation of an appropriate staffing structure, with suitable technical and management skills is paramount to success. The governance of the technology sphere needs to be organised so that appropriate decision making can be enacted, to deliver the IT objectives. The creation and organisation of teams and project teams are a vital activity in this function. The requisite skills need to be purchased or developed and this will include the areas of system, management and project management. The acquisition and dissemination of knowledge is critical to this area. It is important to have a scheme of delegation in order to reduce the risk to technology progress. The use of deputies will provide opportunity for learning and promotion, as well as cover in respect of key positions.

5. Decide on Market Orientation

The organisation will have an orientation within its market environment. If technology is a primary function in the value chain, for example in the case of delivering a technology product, then both innovation and market success are required.

The portfolio of products needs to be considered, in respect of their technology life cycles. The organisation's IT strategy should accommodate such products and employ plans to ensure the most efficient use of resources and maximise the effect on the market.

The leading technology product, with the maximum level of innovation effect on the market, should be developed and supported to exploit the market advantage. The less innovative, staple products can still generate good business value. Potential new products, that currently do not have a market presence should be researched and receive investment to replace the current leading products, in future. Technology products that are no longer profitable should be removed and replaced, as soon as possible.

The investment here is not matched by the appropriate return. An example may be a car manufacturer, promoting the latest all-electric powered model alongside the older hybrid model, which still generates reasonable demand and profits. The much older petrol models should be removed from production, as the costs now outweigh the revenue, in terms of market demand. The new, improved prototypes should receive investment to enable a competitive model to be produced in the future. This leads to a 'product obsolescence and renewal cycle', in terms of the organisational strategy.

This can also apply to technologies of production that add value to the outputs of the organisation.

The aim is to analyse the market trends that have prevailed during the pandemic and determine their nature. These could be temporary (and will not persist post pandemic), reinforce existing trends (such as the move to online shopping), new, potentially permanent trends (such as the move to home working and use of virtual teams [5]) and existing trends that have been temporarily suppressed by the pandemic (such as attendance at live events). Organisations can then formulate an appropriate strategy to address these market demands [6].

6. Determine the Strategic Approach:

6.1 Planned V Emergent:

The IT Strategy can follow a prescribed plan to achieve the business objectives in a structured manner. The aim is to deliver predefined technological items in accordance with the plan, utilising the prescribed, budgeted resources. This is the traditional approach, driven by a specification that encapsulates the perceived technological objectives of the business.

An emergent strategy is determined in a reactive manner, with changes in the environment informing technological objectives. The aim is to take advantage of prevailing market conditions, such as new IT developments and in order to leverage gain, such as financial, market share or technology [7].

6.2 First Mover V Late Adopter:

The organisation may desire to be a 'first mover' in its environment, seeking advantage by being first to use or market the technology. This should allow the organisation to make gains from creating the new market or leverage technical or cost advantage via innovation. This allows the brand to be established and demand to be created.

The alternative approach is to exploit the technology after the initial development. This secondary or late adopter role allows the organisation to take advantage of the defined service or product, without the risk and cost of initial development. The organisation can thus form its strategy on the basis of knowledge of both product and demand. The target market and product features can be identified [8].

7. Ensure Strategic Alignment Occurs:

The business and IT objectives should match and be complementary. The IT function should support and promote the organisational purpose. If the product is technology-based or virtual then IT strategy will be the main focus and the business objectives should be complementary. The IT Strategy can drive business decisions and generate value, for example in the case of migrating to a disruptive technology - which could radically amend the business model.

Failure to align the IT and Business strategies can lead to inefficiencies if resources are not focussed in the correct areas. This may therefore cause failure of products, services and ultimately the business, as some of the business objectives are not being supported by IT, to some extent.

The nature of this alignment can be manifested in several areas, in addition to complementary objectives. Internal organisation should be aligned, so decision making and communications are facilitated. The team and reporting arrangements should be organised so that clear lines of communication can be identified. The processes should also be clearly defined so that fault fixing and change requests can be logged, prioritised and implemented. The organisational mentality should be consistent, so that all employees embrace the business objectives and coordinate their work to attain these in the optimum manner. This can be achieved via selection, recruitment, socialisation, training and good management. A system of review, including appraisal and feedback, should underpin the organisation's human resource approach. This will include analysis of performance metrics to aid feedback and, ultimately, enhance output [9].

8. Protect the Environment:

An effective IT strategy is focussed on achieving a desired orientation for the organisation in the environment. Success within this environment will comprise the ultimate criterion to judge the success of

the strategy. The latter must therefore consider the environment and seek to maintain or improve the organisation's position within this sphere, by utilising technology. This could be through the creation and marketing of technology products that establish, maintain or improve the organisation's place in the environment. The use of technology could also be supportive of the production of goods or services, in order to achieve the same effect. Consideration of the environment has several aspects, such as competition, demand, social and ecological factors.

The strength of the competition may determine the nature of the strategy and ultimately provide the principal factor in evaluating its degree of success. The use of the economic power of the organisation, for example, may lead to an attempt to dominate a market, in terms of share and sales. The use of advertising and discounted prices can be used to dominate competitor products. Technology can support this strategy by providing innovation, economies of scale and barriers to market entry, by virtue of technical complexity and cost of development or production.

Technology can be the catalyst for expansion into new areas or creation of new demand. Examples are major supermarkets' adoption of online sales, embracing a variety of products alongside food, together with Apple's creation of the iPad, which initiated the market for computer tablets. This can be a response to current trends (such as the need for online home delivery) or a redefinition of the 'value proposition', via increased efficiency or definition of new areas to exploit [10].

The global environment must be considered, in respect of organisational strategy. This has become a key factor for most organisations, as an important aspect of public liaison and compliance. The requirement to demonstrate corporate social responsibility and have an effective policy in this area is increasingly important for the modern corporation. Technology can support this via strategic mechanisms (such as digital marketing channels) and using 'green' technologies to operate the business (for example, 'clean' energy sources). This can be an important part of establishing good public relations and avoiding reputational damage, where environmental damage is sustained or unethical employment practices are perpetrated in the name of the firm.

Even technology-based industries, such as commercial passenger airlines and airports that have high levels of carbon emissions also have policies to try to redress the environmental balance to some degree, for example through initiatives on biofuels and carbon offsetting. Companies like to demonstrate a social commitment and in some cases 'hybrid' companies have been formed with a dual economic and social purpose, underpinned by technology. The latter have a strategy to deliver profits and achieve social / environmental benefits. The requirement is to balance these so that both objectives are met and technology can mediate here by providing a system of control, measuring and facilitating resourcing to achieve an equilibrium [11].

The need to fund the proposed strategy is thus highlighted. This can be achieved via increased revenue, utilising current resources or external finance options.

9. Provide a Contingency:
An IT strategy should contain contingency provisions to ensure business continuity [12]). This could be in the form of alternative technology resources, such as offices and a server, or multiple mechanisms for delivering the business products and service, to facilitate continuity in the case of failure in one channel. The example here is an online delivery, allowing some organisations to maintain operations through the recent COVID-19 pandemic and enforced restrictions on movement. Commodities and services, including education, were delivered by virtual means (and accompanied by postal delivery in some cases, such as consumer goods and medicines). Online orders for food with home delivery was a recommended procedure for vulnerable groups. Many companies have moved to online delivery for customer convenience and cost reduction purposes.

The decision here may be to utilise online delivery as an additional channel, alongside existing provisions, or replace the latter with online mechanisms, thus saving on a physical stores' network, for instance. This will depend on the aspects covered here, such as competition and resourcing. A strategy of enabling homeworking and virtual teams, via the appropriate technology, may be required, depending on the industry. IT can thus be used to provide a communications network with options, depending on the environment.

10. Categories of Strategy – Making the Choices:
The literature and empirical study were used to discern

several themes which enabled a broad classification of IT strategies to be constructed. These are:

Competitive advantage for business - this comprises the degree to which IT is leveraged to give the organisation a relative advantage in its environment, for example to maintain or increase market share in respect of its competitors;

Dependence on IT - that is the degree to which the organisation is dependent on IT or technical resources. This can be characterised as primary or secondary. Primary comprises an organisation that depends on technological innovation, as it delivers an IT or technology-based product or service. Secondary means that technology and IT comprise a supporting role in the delivery of a product or service that is not IT based;

Contribution to environment - that is the organisational outputs that affect the environment. These can be positive or negative in terms of their effects.
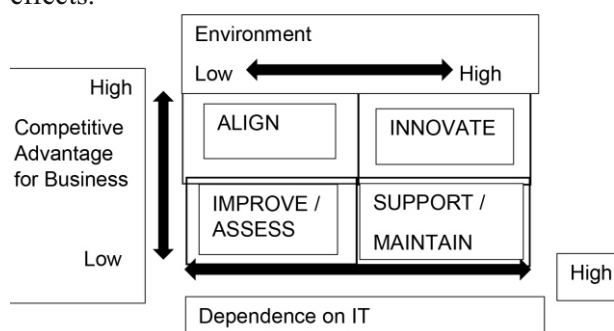

Diagram 1 – IT/Business Strategy Matrix

These criteria permit several broad categories of IT/Business strategy to be discerned, as per the above Diagram 1:

Innovate - comprises a technology-based organisation. Examples are Apple and Netflix, delivering new technology and virtual products, respectively;

Support / Maintain - standard technologies support the business. Examples are banks and factories (such as the Kellogg Company), relying on IT and technology to deliver the products and services;

Align - a potential competitive advantage needs to be exploited. The organisation has products or services that require investment or marketing to be successful;

Improve / Assess - the organisation needs to take advantage of technology or leave the market, perhaps reappraising its options. The organisation is not using

technology effectively, in terms of its environment.

Eco positive / negative - potentially applies to each category to characterise the organisation in terms of net contribution to its environment. This is an external factor, contrasting with the other two being internal (namely, focussed on characteristics of the organisation within its span of control). This represents the perspective of the environmental context, in appraising the organisation. The contribution could be social (perhaps via job creation and employment) or ecological (aiding the environment). The latter could be constraints, imposed on businesses, such as the ban on production of new diesel and petrol vehicles in the UK, proposed for 2030. It could be manifested as public approval or disapproval for company practices in this sphere. This could be positive, as in a promotion of 'clean' power sources and 'green' technologies or negative, such as bad publicity from harmful environmental practices like pollution. The orientation of an organisation in the environment will determine its perception and results.

11. Conclusion:

Strategic choices for organisations, emerging from the operating conditions experienced during the pandemic, have been outlined. The internal and external factors can be combined to give the principal strategic choices for organisations. These can be defined in terms of their action within and reaction to their environment. The choices made in this sphere will ultimately determine the success of these organisations.

References:

[1] Loebbecke, C. and Wareham, J. (2003),"The impact of eBusiness and the Information Society on Strategy and Strategic Planning: An Assessment of New Concepts and Challenges", Information Technology and Management, 4: 165–182

[2] Broadbent, V. (2005) "How IBM Misjudged the PC Revolution." BBC. [Online] [Accessed on 17th December 2020]
http://news.bbc.co.uk/1/hi/business/4336253.stm

[3] Needle, D. (2015), *Business in Context: an Introduction to Business and its Environment (6/e),* Cengage Learning EMEA.

[4] Aron, R. and Singh, J. (2005), "Getting offshoring right", Harvard Business Review, 83 (12) December: 135–43

[5] Hacker, J., vom Brocke, J., Handali, J., Otto, M.

and Schneider, J. (2020), "Virtually in this together – how web-conferencing systems enabled a new virtual togetherness during the COVID-19 crisis", European Journal of Information Systems: 1–22

[6] Jacobides, M.G. and Reeves, M. (2020), "Adapt your Business to the New Reality", Harvard Business Review, 98 (5) September-October: 74–81

[7] Hackney, R. and Little, S. (1999), "Opportunistic strategy formulation for IS/IT planning", European Journal of Information Systems, 8: 119-126

[8] Fisher, M., Gaur, V. and Kleinberger, H. (2017), "Curing the Addiction to Growth", Harvard Business Review, 95 (1) January-February: 66-74

[9] Gerow, J.E., Thatcher, J.B. and Grover, V. (2015), "Six Types of IT-business Strategic Alignment: an Investigation of the Constructs and their Measurement", European Journal of Information Systems, 24: 465-491

[10] Malnight, T.W, Buche, I. and Dhanaraj, C. (2019), "Put Purpose at the Core of Your Strategy", Harvard Business Review, 97 (5) September-October: 70–79

[11] Battilana, J., Pache, A., Sengul, M. and Kimsey, M. (2019), "The Dual-Purpose Playbook", Harvard Business Review, 97 (2) March-April: 124–133

[12] Blair, G., Pagano, R. and Burns, B. (2019),"A Contingency Framework for Addressing Failure in Information Systems Projects", Journal of Innovative Research in IT & Computer Science, 3 (2) June: 01–04

GB / December 2020