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# Is there a prescription for strategic IT decisions?

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## Abstract

Strategic IT decisions are complex and critical since they significantly influence an organisation's growth and long-term survival. The large number of strategic IT failures reported in the media and academic literature indicate we have limited understanding of how to make optimal IT strategic decisions. More work is needed to understand the factors influencing strategic IT decision processes and outcomes. By exploring the key influence factors presented in this case study, students will be more informed about how senior decision makers can better manage strategic IT decision-making processes. This improved understanding will help reduce project cost overruns and enable organisations to realise the expected benefits of large-scale IT investments. This teaching case study provides insights into the key factors that influenced the strategic IT decision-making process at a major Australian pharmaceutical company (PHARMA). A decision was made under pressure to upgrade the existing enterprise resource planning system at PHARMA in order to meet an increased need for demand forecasting and planning. The implications of strategic IT decision-making theory and practice are discussed in relation to this case study.

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## Introduction

Imagine you are a Pharmacist working at a local pharmacy. A customer arrives asking you to fill a prescription but when you go to the shelf, you realise that you are out of stock of the required medication. As a Pharmacist you could potentially be held liable if unavailability of the medication negatively affects your customer's health. You seriously start questioning whether you should find a more reliable supplier, one who can keep up with your customer and stock demands. When suppliers and retailers are unable to access appropriate information, manage their supply chain and guarantee availability of medication stocks, both businesses and customers suffer.

Efficient supply chains are vital in the healthcare industry, particularly given the demand for medication supplies that are readily available, stored correctly and administered before their expiry dates. Across many industries, IT solutions help reduce supply chain costs whilst maintaining high levels of customer service. PHARMA is representative of the large pharmaceutical distributors that use sophisticated IT solutions to improve efficiency in provisioning medications from partner suppliers to pharmacy outlet customers.

PHARMA was under pressure to improve delivery of supplies to its branded pharmacy stores. PHARMA's existing enterprise resource planning (ERP) and supply chain management (SCM) systems needed improvements to increase their capability to forecast demand and collaborate with suppliers. PHARMA needed improved information about supply, demand and likely ordering patterns of key customers to produce customer analytic data and create more predictive and proactive provisioning of supplies. PHARMA was confronted with two options: (1) implement a completely new ERP system or (2) upgrade their existing system. This was a major strategic decision having far-reaching consequences for PHARMA. *Imagine if you were the manager making this decision. What factors would you base your decision on?*

How such decisions are made in large organisations has been the subject of research in the last few decades. For example, Bazerman and Moore (2008) investigated judgment patterns in a variety of managerial contexts. Their book provides insights into what are good choices, and how to avoid errors of judgement and improve overall decision quality. Management research has included forays into psychological elements of decision making. Nobel Prize winning work by Tversky and Kahneman (1985) explored heuristics and biases that significantly influence decision making. This research illustrated how "people systematically violate the requirements of consistency and coherence" (Tversky and Kahneman, 1985, p. 107) which they attribute to "psychological principles that govern the perception of decision problems and the evaluation of options".

More recently, Brocas and Carrillo (2014) reviewed behavioural models of decisions referring to the notion of "bounded rationality" or the strong influence that biases play in decision making. Similarly, Basel and Brühl (2013) assert: "our brain, which is indeed not a computer that can work with the principles of unbounded rationality and perfect logic. Thus the brain is an easy victim to all kinds of biases and lapses" (p. 746).

Apart from biases, organisations also need to deal with politics. Most large organisations are not immune to political behaviour. Pettigrew's (1973) classic book highlights how politics can be pivotal in the decision-making process. Considering rapid technological changes, Eisenhardt and Bourgeois III (1988) investigate these dynamics within the political landscape of decision making. Biases, politics and technology dynamics all influence the decision-making process. W*hat do you think is the probability that the decision made by PHARMA was rational? To what extent was it likely to be affected by biases and perceived benefits? Would politics have played a part in the process too?*

Strategic IT decisions involve large-scale expenditure, which significantly affects short and longer-term organisational performance. Senior executives usually make these strategic IT decisions. Detailed cases of strategic IT decision making are rare and they often do not encompass *all* of the decision process aspects. Many strategic IT decisions lead to failures or budget blowouts. An organisation's strategic IT investment may successfully achieve its primary goal of meeting data processing needs, but at a significant cost overrun. In many cases, the expected benefits are not realised, and some projects are abandoned prior to completion. As an example, in 2013 a planned new National Health System in the UK was abandoned and capital investment exceeding £10 billion was written off (NHS, 2013).

Why are there so many failed strategic IT projects? Does the root cause of the problem lie with the strategic IT decision-making process? We should not be quick to judge failure; strategic IT decisions are notoriously complex as they involve many interrelated aspects of an organisation. It is difficult to account for and "correctly" manage *all* variables during the decision-making process, resulting in significant uncertainty in the decision-making process. It is also difficult to accurately determine the costs, benefits, risks and long-term implications of such large complex projects upfront. Strategic IT decisions made by senior management are often constrained by previous decisions which may have been made by different management teams with different sets of goals and interests. Additionally, within the decision-making team, members often bring personal biases and preferences to the table, and political bargaining can further complicate the decision-making process. Hence, it is very challenging for organisations to effectively recognise and manage the factors influencing their strategic IT decision-making processes and outcomes.

This teaching case illustrates how PHARMA made a strategic IT decision to upgrade its existing ERP system, describing the decision-making process it followed, and the factors that influenced the final decision. The case is based on an in-depth interview with a key decision maker at PHARMA and other sources of information including company documentations and industry reports. This case study demonstrates the complexities and challenges that decision makers face and the lessons learnt at PHARMA. By reflecting on the case study, you will learn how strategic IT decisions are made in practice and how contributing factors, individually and in combination, act to influence the final decision.

## The case study context

The pharmaceutical industry consists of multinational corporations engaging in more intensive research activities than most other industries. Their research focus is not only on innovative pharmaceuticals but also on improving production of generic and non-prescription medications. By 2016, global expenditure on pharmaceuticals would be approximately $US 1.2 trillion. However, growth in developed markets (e.g. the US, Europe, Japan) is forecast to decline to about 57% of expenditure from a previous high of 73% in 2006. For emerging markets including China, Brazil, India, Russia and Mexico spending is predicted to increase from 14% in 2006 to 30% in 2016. The pharmaceutical industry is also impacted by the expiration of patents and the lingering side effects of the global economic crisis. However, despite a slowing economy and a reduced capital investment in developed markets, globally the pharmaceutical industry is still highly profitable.

A greater diversity of products and medications with shorter product lifecycles is impacting pharmaceutical supply chains. It is predicted that by 2020 the pharmaceutical industry will need alternative and more stringent methods of assessing, approving and monitoring medicines. Furthermore, there is an expectation that providing access to patient information will become as important as access to correct product information. There will be increased emphasis on achieving patient outcomes in line with new healthcare delivery approaches that require more integration within communities. The growth of emerging markets and increased public accountability, increasing environmental regulation and the need to improve risk management will motivate organisations to consider using innovative technologies for their SCM. Despite the relatively high research and development expenditure in the pharmaceutical industry, new medications can still offer high profit potential for manufacturers. In order to realise these potential profits, the industry supply chain must be flexible enough to incorporate and deliver new products quickly and correctly, and preserve supply chain partners trust. Appropriately designed IT-enabled supply chains are fundamental to the growth and survival of pharmaceutical companies.

Even though Australia only represents approximately 0.3% of the world population, it is the 12th largest market for pharmaceuticals worldwide (Industry Pharmacy, 2015). In Australia, the pharmaceuticals industry consists of biomedical research, biotechnology companies, original and generic pharmaceutical companies, wholesalers and distributors. In 2012–2013, pharmaceuticals were one of Australia's most significant manufactured products with an estimated export value of 3.9 billion dollars. In 2011–2012, more than 16,000 people were employed by manufacturing pharmaceuticals. Australian companies invested an estimated AUD $404 million in pharmaceutical manufacturing inclusive of research and development investments. The Australian pharmaceutical market is serviced by a variety of suppliers, consistent with the global industry structure.

### PHARMA's organisational context

PHARMA is a major pharmaceutical manufacturer and distributor with a large distribution network of brand name pharmacy outlets throughout Australia. PHARMA's existing ERP system was not adequately supporting manufacturing and supply chain demands, leading to a need to upgrade. The ultimate decision was primarily based on information provided by managers who were trusted by the decision-making team. *What do you think are some issues that close working relationships can create for the decision-making process?*

The reporting line at PHARMA is charted in Figure 1. The key decision-making team at PHARMA is the executive committee, which includes the Chief Executive Officer (CEO), the Chief Financial Officer (CFO) and the Chief Operations Officer (COO). All other divisions of the business report through either the CFO or the COO.

The CIO reports to the CFO, who incorporates information and recommendations in reports to the CEO. Information from the CIO therefore has the potential to be distorted by the perceptions of the CFO. Preston *et al.* (2008)'s paper highlights how IT's contribution to organisation performance can be negatively impacted when the CIO cannot directly influence the executive committee. At PHARMA, the strategic IT decision also involved three other senior managers in sales, distribution and SCM who reported to the COO and CFO. These managers had information that required further evaluation to improve the ERP system's features and capabilities.

The pharmaceutical supply chain for PHARMA is depicted in Figure 2. Pharmacies can be supplied directly from PHARMA's manufacturing plants or from their distribution centres according to demand. In extreme situations where stock is depleted, pharmacies can place orders directly with the manufacturing plants. However, this requires a re-calculation at the point of distribution adding extra time to delivery. This is not acceptable in an industry where timely delivery of medications is demanded across the entire network. PHARMA's ERP needs to facilitate efficient and timely delivery of stock to all its pharmacies from key distribution points around Australia.

The pharmacy shop front, or the brick and mortar sales, is what end customers are most familiar with. The pharmacy is where medical prescriptions are submitted and medications are collected when they have been filled by a pharmacist. With increasing expectations of how the demand and supply of medications is managed, an appropriate supply chain framework is vital for a pharmaceutical company. Given PHARMA's distribution network of pharmacies across all of Australia guaranteed access to accurate and timely information about supply and demand of product is essential.

### Importance of supply chain agility and flexibility

Companies such as PHARMA need to have lean and agile aspects in their product distribution to adaptable to unpredictable customer and market demands. This is particularly relevant when faced with emergency demands for medications, for example the unexpected demand spike for influenza vaccinations during 2005 in the US (CIDRAP News, 2005). A flexible SCM supports more efficient and adaptable distribution of products, in this case medications. Optimising distribution also maximises profits by improving time-to-market for new medications. In addition to supporting normal distribution demands, appropriately interfacing the ERP to the SCM system can provide greater ability to respond rapidly to a product recall. For pharmaceutical companies such as PHARMA, an agile SCM system that can cope with high volatility and changes to product demand will facilitate improved and streamlined product exchanges with their suppliers, distribution centres and ultimately their end customers.

Implementing a just-in-time (JIT) approach to supply chain distribution logistics for hospital systems and pharmacies is regarded as positive steps to meeting demands in these life critical organisations (Kowalski, 1986; Trinkaus *et al.*, 1996). In addition, the JIT approach is highly appropriate for PHARMA given their need to minimise longer-term storage of stock items. Having too much stock is also an issue for pharmacies with limited local storage capacity. Pharmacies require fresh up-to-date stock supplies along with the ability to meet fluctuating customer needs.

The existing ERP at PHARMA was not meeting the demand for efficiency and JIT. The pharmaceutical industry itself had evolved and grown more complex. The original ERP was designed to manage single line suppliers with multiple retailers but in addition to PHARMA's own manufacturing line, it now also had to integrate a network of other suppliers. The main ERP supply chain module was only just meeting basic supply chain demands. There was no functionality to handle proactive demand forecasting and planning. By relying on this core system, PHARMA remained largely reactive rather than being able to initiate proactive stock delivery for their customers. The previous PHARMA management had invested almost no money in the ERP system; the software was four versions old, and it had never been upgraded. This had serious consequences for the competitiveness of PHARMA given their limited supply forecasting capability.

The increasing competition in the pharmaceutical industry meant that an SCM with demand forecasting capability was critical to remaining competitive. PHARMA's ERP system had a very basic SCM component that only facilitated inventory management. Given PHARMA's limited demand forecasting capability, they were unable to supply inventory at the right level to achieve higher profit margins. This negatively affected PHARMA from an effectiveness point of

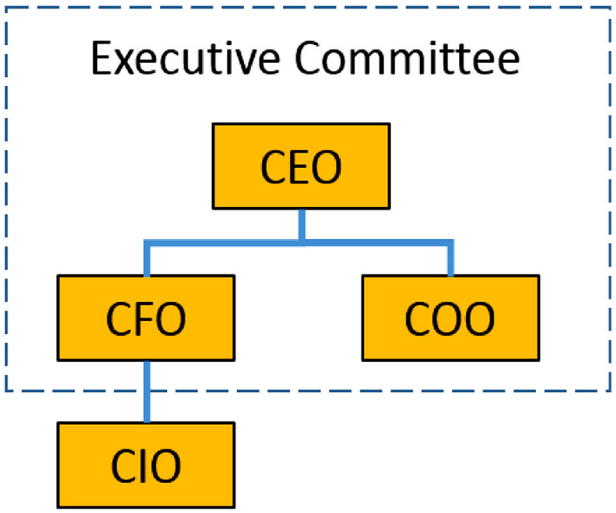


**Figure 1** Key roles in the strategic IT decision outcome.

view as they could not provide an adequate stock position for their customers. Additionally, PHARMA was not able to reach and attain the velocity of inventory turnover required without exposing themselves to risks of holding dated or obsolete stock. *If you were a manager at PHARMA, what would you have done to prevent this situation from occurring?*

## The strategic it decision at PHARMA

The strategic IT decision at PHARMA was driven by the growing need to provide a more proactive approach when supplying their pharmacy customers. At PHARMA, the strategic IT decision focused on one key question – whether to upgrade their existing ERP system or implement an entirely new one. To make this choice, the executive committee requested the CIO, in conjunction with the managers of the manufacturing and sales divisions and a new supply chain manager who was specifically hired for this task, to evaluate the business requirements and align those with expected business outcomes. The CIO was tasked with providing detailed business cases for the executive committee highlighting how their recommended new or upgraded system would maintain adequate inventory levels. Additional metrics were also requested to demonstrate how the recommended ERP solution would maintain an acceptable stock position and maximise company profits. A comparison of scenarios on the aspects of potential efficiency yields and profit margins was also requested for each business case. Finally, it was expected that the CIO would provide the executive committee with detailed cost–benefit analysis reports for both potential solutions.

There was pressure by the executive committee to have a timely solution. The CIO commenced the process of evaluation with a constrained 4-month period. However, the managers had misgivings about this restrictive timeline as there was not sufficient time to allow for careful analysis prior to summarising and highlighting pertinent issues in the business cases. Despite concerns about the limited timeframe, neither the CIO nor the managers asked for extra time to work on comprehensive recommendations. The managers were expected to analyse how the ERP solution would meet expectations of where PHARMA was heading according to its goals and objectives. To complete this task, the managers considered what the best outcome should be and then attempted to retrospectively align this with the structure and approach that PHARMA should be taking. They attempted to determine what and how PHARMA's business strategy could be supported with either an upgraded or a new ERP system. The managers had to consider which option would work well to meet their immediate needs and the needs of the changing industry dynamic.

When the final reports were tabled and discussed the executive committee decided to upgrade PHARMA's existing ERP software. This decision resulted in a multi-million dollar spend. Subsequently, serious concerns and questions were raised as to whether it was the most appropriate decision to spend this amount of money upgrading an existing underperforming system: "… It's certainly worked to an extent but it hasn't actually achieved the business outcomes that were in the original business case. … We're kind of back to where we started really, so all we kind of have is a slightly better version of the same thing". To help you better understand how the decision-making process led to this final decision, the following sections summarise the main phases of the process, and identify key underlying factors that influenced the strategic IT decision at PHARMA.

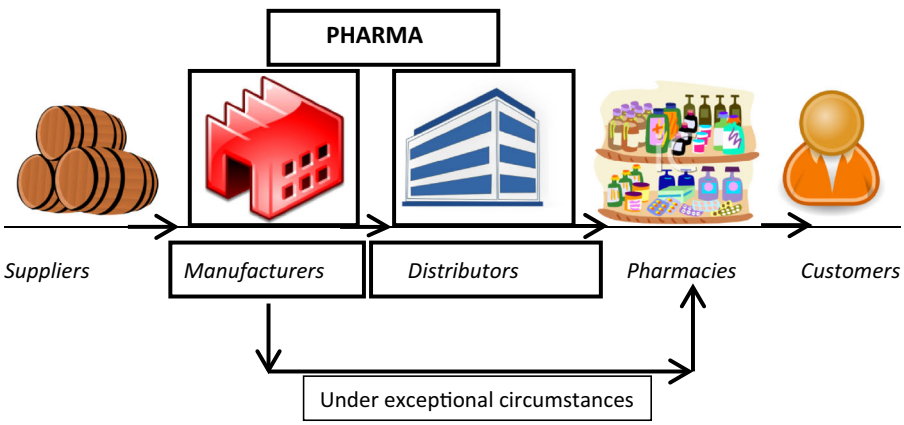


**Figure 2** High level supply chain flow at PHARMA.

## The decision-making process

The overall strategic IT decision-making process at PHARMA followed an incremental approach. The decision was triggered by their main concern: the need to proactively provide adequate levels of stock to their customers. This issue led to a chain of events that culminated in their ultimate decision to upgrade their existing ERP system rather than implement an entirely new ERP at a much greater cost. The overall decision-making process can be summarised by the four major phases shown in Figure 3.

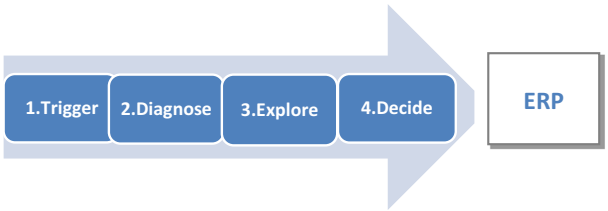


**Figure 3** Four phase decision-making process at PHARMA.

*Trigger*

The executive committee realised that the current ERP system was not coping when the CFO reported on unnecessary financial losses due to poor supply chain processes. They needed to decide on what the best option for PHARMA was in order to streamline an outdated ERP system. The decision process began by obtaining substantiated evidence as to which option would provide a better return on investment.

*Diagnose*

The executive committee decided to call on the CIO and senior managers of the manufacturing and sales divisions for assistance. An initial exploratory meeting was held at which major issues were tabled and discussed. As the possibility of investing in an improved or new ERP was discussed at this meeting, it was decided to hire a new supply chain manager to provide additional insight into the problem. The committee decided to look for someone who had already experienced supply chain transformation in another organisation as they felt that prior experience would improve the eventual decision outcome. A new supply chain manager was hired to assist PHARMA with the process of deciding how to improve their current ERP and provide enhanced service to their suppliers and customers.

*Explore*

The new supply chain manager provided their opinion about the ERP they had worked with and why it had been so successful at the previous company. The managers and CIO then considered a number of issues as they explored and evaluated the ERP investment options. Achieving alignment with PHARMA's business objectives and current operations was enormously important. Since an existing ERP was in place, its shortcomings also needed to be investigated and analysed to identify the current gaps. For four months, meetings were held on an almost weekly basis involving senior managers and the executive committee. During those meetings, the CIO and managers presented their in-progress business case reports and explained their reasoning for the choice of either an upgraded or new ERP. The executive committee raised general questions about reasons for selecting either choice primarily in terms of costs and expected outcomes. The managers then went back to their divisions to further investigate and respond to these questions at the next meeting with stronger evidence as to why they believed either an upgrade or entirely new implementation of the ERP was more viable and likely to result in a better return on investment.

*Decide*

The CFO of PHARMA drove the whole decision-making process as part of the executive committee making the final strategic IT decision. The ultimate decision to upgrade the ERP was largely influenced and constrained by considering the current ERP system's viability in relation to the cost of implementing a new ERP system.

In the case of the strategic IT decision for the ERP upgrade at PHARMA, although it was made incrementally, it emerged rapidly over the 4-month period. The iterative process of exploring and recommending options affected the final decision in that it "…more emerged than just appearing as a single point". At PHARMA it was considered very important to make a series of "little bets", incrementally stage-gating the decision, since budgetary constraints were in place in order to minimise IT expenditure. The emphasis on stage-gating, or incrementally investing in small IT investments, had been identified as a significant tactic for PHARMA: "…therefore rather than make the big bet, you make a series of little bets so you don't go and spend ten million dollars on up front …, it's about knowing what you don't know and then doing the work, stage gating the process and not spending, not committing to the spend and not spending the money until you've got through certain stage gates and the trick there is knowing what are the stage gates…".

The executive committee incrementally assessed the costs and benefits provided by the CIO over the 4-month period. Since their mindset was influenced by this stage-gating process, they were more inclined to select the option that guaranteed greater return on investment with minimal initial expenditure outlays. The decision-making process lacked adequate techniques that the executive committee could use to stringently question the figures and evidence presented in the business cases; instead, they placed a high level of trust in the CIO and managers. Furthermore, there was time pressure to produce results, so a more thorough investigation of what was presented in the business cases was limited. *What steps or approaches do you believe could have been adopted to improve the overall decision-making process at PHARMA?*

## Key influencing factors

The key influencing factors for the decision to upgrade the existing ERP at PHARMA can be divided into three main groups: the decision context, the decision team and the decision-specific characteristics. These are depicted in Figure 4 and then presented along with key quotes from the interview.

*Decision context*

The CFO joined PHARMA when it was experiencing significant financial risks. Under his leadership, he had managed to increase profit margins at PHARMA, and reverse the negative fiscal outlook. At PHARMA, the issue of potential financial distress triggered a rescue response where

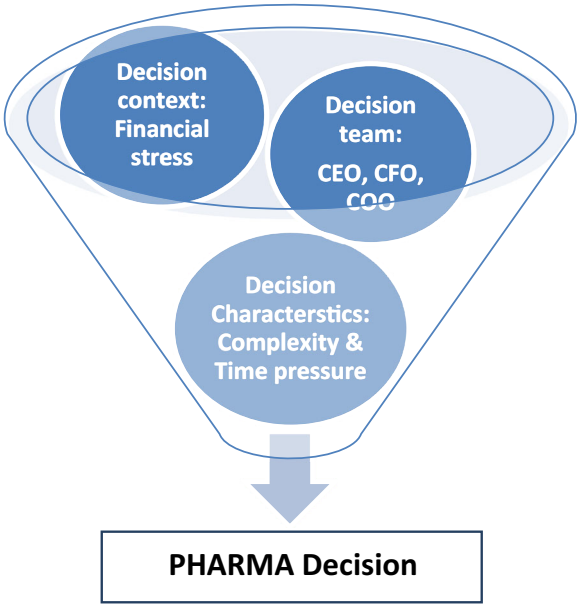


**Figure 4** Three influencing factors on the decision-making process at PHARMA.

appropriate financial alternatives and strong re-investment in IT were considered pivotal. Attention was particularly focused on the potential ERP functionality to more efficiently maintain required stock levels for their customers.

There was a need for reliable demand forecasting because at PHARMA "… we work on wafer thin margins … So the efficiency of the supply chain system is key to success…". These were the major issues that triggered the strategic IT decision-making process. The current ERP, for which the CFO had been involved in the decision-making process, was essentially a core SCM system with emphasis on supply chain functionality. This outdated system needed to be improved to deal with demand forecasting and planning however, a combination of pre-existing organisational and technology characteristics impacted the decision-making process.

In this case, the strategic IT decision that was made was constrained by earlier project structures and the existing IT infrastructure: "… it took us longer to get there and cost us more and we hadn't fully developed it to the point where we can use it as well-because we've got an old data warehouse and we haven't sort of quite got rid of that data warehouse yet…", "… what we didn't have back then but we do have now, we didn't have a project management group, so whilst we had an IT group back then they were more sort of run and maintain, sort of keep the lights on than heavily involved with the business in terms of focusing around business need and business process facilitation if you like…". This interplay of organisational structure and the pre-existing IT infrastructure influenced the strategic decision to upgrade rather than replace the ERP.

*Decision team*

The decision team was significantly influenced by the information provided by their direct reports. The managers and CIO did not want to invest PHARMA's limited capital on a risky new system that would take longer to implement without any guarantee of success. The managers followed risk-averse *incremental* decision-making steps, which ultimately influenced the outcome. In addition, the managers' previous experience and knowledge also influenced the decision-making process. This was particularly the case for the new supply chain manager who produced a very convincing business case to upgrade the existing ERP. The new manager had previously upgraded the same software package and relied on this success instead of analysing requirements given the organisational structures and processes at PHARMA. Direct reports to the managers also brought in biases from other organisations: "…we did a lot of change so we brought in a whole new management team, … people come with baggage and so you'll get people that come from A or they'll come from B or they'll come from C and they'll come from somewhere else and they'll often bring their biases from those organizations with them". The final IT decision was influenced by bias towards other organisations that were not aligned with PHARMA's objectives and structure. Furthermore, when attempts to create an analytical approach were undertaken, for example the production of the business case, the figures did not necessarily reflect the actual situation but were more like an extension of previous experiences.

The subtle social pressure to trust colleagues without questioning their analytics also led to unreliable decisions: "…I kind of went off what they told me and I probably didn't dig below the surface a little bit more than I should have in terms of thinking about okay, well tell me in more detail what exactly your business objective is and describe to me and prove to me that you've got a handle of your business process that you're looking to change and that you've then got the governance in place to make sure that once you've implemented that system and you've changed the business process then you're going to maintain that business process, so I was probably a little bit less involved in that and we didn't do as good a job of that as we should've here…" unwittingly the biases of the decision team influenced the decision process and outcome.

Final decisions are rarely questioned by boards or executive committees: "So the core decisions were made by the management team… I mean for that level of investment, a few million dollars the board's pretty much going to just take it from management. They're going to ask a few questions but they're not going to delve into detail and the board's a million miles away from the detail". This reflects the importance of ensuring that sources of information are accurate and reliable. Once the decision had been made it was recognised that that there was a need to "bring in some independent thinking and some independent processes or reviews to be able to change that because otherwise it won't change. We're going to have to do it here [at PHARMA] I can tell you now, the only way I'm going to get the supply chain to work is I'm going to have to do an independent review, I'm going to have to crash through it, that's the only way".

*Decision-specific characteristics*

Even though the executive committee questioned the business cases, they were not thoroughly investigated. Bias crept in from previous experiences in unrelated organisations. These biases were very influential, especially that of the new

supply chain manager. Consequently, the CIO and managers did not fully *rationally* consider the actual circumstances at PHARMA. In hindsight PHARMA note that pre-existing biases should have been prevented from influencing IT decisions: "What people didn't stop and take into account was that just because system X worked really well for another supply chain, there's a whole lot of other circumstances or structures or organisational support frameworks that might exist that don't exist here [at PHARMA], so just because it worked well there doesn't mean it's going to work well here".

A significant component of the strategic IT decision at PHARMA was the cost–benefit analyses provided by the managers and the CIO in their business cases. However, there was a lack of systematic costing strategies in their analytical process. All three managers and the CIO used different metrics and estimates based on their own personal experience rather than carefully considering the actual business processes, organisational culture and structures at PHARMA. The cost–benefit estimates provided by the CIO and managers were not reliable and cost overruns occurred. "I don't think they lied but they gilded the lily. They took an overly optimistic view around assumptions into the project which fell flat because they underestimated the impact of organizational change". It became apparent afterwards that the business case underestimated the organisational maturity level and requirements at PHARMA which led to budget blowouts: "Where the money goes out the door it's always the same thing, you underestimate two things, you underestimate usually the level of where your business processes and data are now and then you also underestimate the resource requirements, so time equals money with IT projects".

Considering organisational change management is fundamental for IT projects, which are by nature complex and affect the whole organisation. Given the vested personal interest people have in IT projects, an *independent* review and evaluation process need to be conducted after a new IT system is implemented. An expected outcome of this evaluation is lower risk for future IT projects, particularly in relation to business objectives, processes and governance: "I'd rather spend more money and de-risk it up front…" Costing a project more realistically is a logical result of proper analysis of these factors. However, overly optimistic low cost estimates are still challenging to "reign in" given the expected likelihood that a high-cost estimate will lead to rejection of an IT project from going ahead.

## Concluding remarks

Some general observations can be made from the case study. First of all, it is imperative to question and thoroughly investigate any information and figures provided in order to make optimal decisions. In this case, more investigation time should have been allowed despite pressure to move forward with decisions: "You're keen to be seen to be doing something that you hasten too quickly to decide on but then results in a disaster…". Furthermore, due to a lack of proper business process analysis, the approach that was adopted in order to upgrade the ERP did not succeed as expected. Formal substantiated evidence was not sought for various proposals made about IT and business alignment. To more clearly understand and redesign business processes, a more analytical grounded approach was required.

There is a real need to carefully analyse and understand business processes as a lack of understanding will negatively influence a strategic IT decision. "It's not about the system, it's about the processes and the system is just a means to an end, it's not an end in itself and most people fall for the trick, they think oh, we'll just put this system in place and everything will be fine and it never is if you don't actually think about what your business objectives are and what your business processes are because the system is really just a facilitation of core business process and if you don't focus on core business process any IT recommendation will fail". Careful analysis with adequate time and attention devoted to understanding what the business processes are doing and what you want to achieve out of them is vital. Additional analysis about how to link the business processes into the IT system will lead to better outcomes. The extent to which business processes influence strategic IT decision making is indicative of how integral influencing factors are. These factors need to be carefully considered as in addition to their individual impact, their amalgamation can lead to unanticipated emergent problems.

This teaching case study presented the key factors influencing a strategic IT decision process at PHARMA. Information about organisational needs was gathered and then aligned with two options: to upgrade or to replace the ERP system. Business cases were prepared to provide supporting evidence to identify the best return on investment. Some of the key factors that influenced the decision makers were presented in the case in order to highlight the context within which strategic IT decisions are made. As it turned out, the need for reliable information played a crucial role, showing where and how information is sourced is essential for successful decision outcomes. Whilst reading the details of the case study, students should have considered the key factors influencing the decision-making process, and how these could have been better managed to improve the outcomes of PHARMA's ERP decision. The ultimate question that remains is whether there is a cure for poor strategic IT decision making.

## Questions for reflection

### Question 1

How would you describe the nature of the strategic IT decision-making process at PHARMA described in this paper? Is it analytical, intuitive or political? Justify your answer.

### Question 2

What key steps did PHARMA take when deciding to upgrade their existing ERP software?

### Question 3

What problems can you identify with the strategic IT decision process at PHARMA?

### Question 4

What factors do you believe influenced the strategic IT decision process at PHARMA more strongly?

Question 5
Why and how did the factors in Question 4 affect the strategic IT decision made?

## Debate topic

Argue the case for or against the following statement in light of this case study. Consider what your argument means for strategic IT decision-making process and influencing factors:

> A strategic IT decision-making process is always biased. People always bring their opinions into the decision-making process and there is nothing we can do about that.

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