The evolution of KLM’s enterprise governance of IT:
An ongoing journey from cost-of-IT to business-value-of-IT

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ABSTRACT

A common and critical dilemma confronting enterprises today is how to ensure that they realise value from their large-scale investments in information technology (IT) and IT-enabled change. IT-enabled investments can bring huge rewards, but only with the right governance and management processes and full engagement from all management levels. This case describes the tough but rewarding journey of the Dutch airline company KLM in improving the governance of IT, moving from managing the cost of IT towards managing the business value of IT.

INTRODUCTION

Information technology (IT) has become crucial in the support, sustainability, and growth of most, if not all enterprises. To overcome the IT productivity paradox as described by Strassman (1990) and Brynjolfsson (1993) (i.e no clear correlation between IT spend and bottom-line impact), this pervasive use of IT calls for a specific focus on enterprise governance of IT (EGIT) (De Haes and Van Grembergen, 2008; Thorp, 2003). Enterprise governance of IT is an integral part of enterprise governance and addresses the definition and implementation of processes, structures and relational mechanisms in the organization that enable both business and IT people to execute their responsibilities in support of business/IT alignment and the creation of business value (Van Grembergen and De Haes, 2009).

In academic and professional literature, the term ‘IT Governance’ is more commonly used instead of ‘Enterprise Governance of IT’. However, due to the focus on ‘IT’ in the naming of the concept, most discussion around, and implementation of IT governance occurs within the IT area. Yet, it is clear that business value from IT investments cannot be realized by the IT function, but will always be created by the business through its use of IT. For example, there will be no business value created when IT delivers a new Customer Relationship Management (CRM) application on time, on budget, and to specification, if the business has not made the necessary changes to the business model, business processes, organisational structure, people competencies, and the reward system required to effectively integrate the new IT system into its business operations. IT-enabled investments should therefore always be treated as business programmes, composed of a collection of business and IT projects delivering all the capabilities required to create and sustain business value. This discussion clarifies the need for the business to take ownership of, and be accountable for,
governing the use of IT in creating value from IT-enabled business investments. It also implies a crucial shift in the minds of the business and IT, moving away from managing IT as a ‘cost’ toward managing IT as an ‘asset’ to create business value. As Weill and Ross describe in their 2009 ‘IT Savvy’ book: “If senior managers do not accept accountability for IT, the company will inevitably throw its IT money to multiple tactical initiatives with no clear impact on the organisational capabilities. IT becomes a liability instead of a strategic asset”.

KLM experienced this mind-shift in 2001 at the start of what has become an ongoing journey, which will be discussed in the remainder of this case study. The paper starts with a short introduction to the case company, followed by an overview of how KLM experienced the journey towards better enterprise governance of IT. This is followed by a discussion on the reported benefits and lessons learned, as well as overall conclusions, and recommendations for executives, based on KLM’s experiences. At the end, background information on the research approach, and referenced literature is provided.

**THE CASE COMPANY KLM**

The airline company KLM was founded in 1919, and has its home base and hub in Amsterdam Schiphol Airport (Netherlands). KLM currently employs over 33,000 people worldwide, and manages a fleet of about 200 aircraft. In 2004, KLM merged with Air France, after which both companies continued to operate as separate airlines, each with their own identity and brand, and each benefiting from each other strengths. In financial turnover, Air France - KLM is the world’s largest airline group, transports the most passengers and is the world’s second-largest cargo transporter. In 2009, Air France - KLM operated flights to 255 destinations in 115 countries on four continents.

This case focuses on the KLM activities within the Air France-KLM group. The KLM Executive Committee (Figure 1) is composed of the CEO, CFO, Managing Director and all Executive Vice Presidents (EVP) of the major business units and services (Commercial, In-flight Services, Operations, Ground Services, Cargo, Engineering & Maintenance, IT and HR). In 2009/2010, KLM IT employed close to 1,000 (internal and external) FTEs, with an IT budget of around 300 million euro. As shown in Figure 1, KLM IT is organized around IT development activities, IT operations activities and the CIO-Office addressing aspects of the enterprise/IT architecture, IT strategy, value and portfolio management, sourcing strategy, and risk & security. The mission of the IT department is to ‘create business value by delivering reliable IT services to the business processes, and innovative IT solutions to enable and support business changes’. The following strategic goals for IT support this mission:

- IT is a world class Information Services provider and will be able to deliver the best value to the company;
- The IT cost-levels will be at a competitive industry level;
- The IT architecture and infrastructure will enable the growth ambitions of Air France-KLM.
**Figure 1: KLM Structure**

**THE ONGOING JOURNEY OF ENTERPRISE GOVERNANCE OF IT**

This section describes KLM’s ongoing journey towards improved enterprise governance of IT. It addresses the trigger points that initiated the journey, and discusses the approaches applied to embark on the journey and move towards better governance principles and practices.

**KLM’s Trigger Points to Start the Journey**

IT is a business-critical enabler for KLM yet, at the same time, can be a source of both success and discontent. In 2001, the balance had tilted towards discontent due to a lack of trust in what was perceived as a very costly and unresponsive IT department. This, in a business climate that was increasingly challenging, and which became dramatically more so after the 9/11 terrorist attacks. After that event, KLM’s CEO seized the opportunity to make a structural break with the past, and re-examine and transform KLM’s business and IT governance.

The Executive Vice-President (EVP) of the Operations Control Centre was appointed as new CIO. It was felt that having the CIO coming out of the ‘real business’ would help in getting the ‘IT governance’ discussion out of the IT area, and have it put on the business executive’s agenda. The newly appointed CIO received three clear priorities:

1. provide the reasons why, or why not, to outsource IT;
2. create a business/IT board to organize joint success; and
3. design simple governance principles to restore control enabling steering by the Executive Vice-Presidents (EVPs) and the CIO.

In order to respond to these requirements, the CIO-Office was established as a support function to the CIO, consolidating a number of already existing, loosely coupled and different functions such as an IT Strategy Office, Programme Management, and business/IT liaison roles. In the words of the Vice President (VP) of the CIO-Office: “In the scenario that we would outsource IT, both IT operations and development would mainly be sourced outside KLM, but the activities of the of CIO-Office would be kept internally, as it governs IT strategy, architecture, security, business/IT alignment, etc. The goal of the CIO-Office is to enable effective IT, in support of business needs”.

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Embarking on the Journey

It was decided that, ahead of the first priority stated above, the primary focus should be to introduce better governance principles and practices (priority 3). A project under the title ‘IT: A Collaborative Effort’ was launched, focused at enabling all stakeholders to better understand the cost and value of IT, which in turn would enable them to make more informed decisions on what and how to potentially outsource (priority 1). In support of priority 2, a business/IT board was established, composed of the CEO, CIO and all business unit EVP’s, meeting every quarter to discuss and decide on strategic issues involving IT.

With regard to priority 3, the CIO-Office, in collaboration with the business, designed a set of principles that would significantly simplify IT-related governance. The starting premise was that these principles should put the business in full control of all IT demand and IT spend. In support of these principles, a number of governance practices were introduced in the business and IT organizations, including the establishment of the business/IT board and demand management functions for each business domain. These governance principles and practices were introduced as ‘the only way of working’ between business and IT for all business units and activities. These practices also supported the creation of portfolio management processes driven by the business units. The portfolio management processes evolved from being IT resource- and supply-driven towards business demand-driven with an innovative and rigorous approach to evaluation and selection.

Governance Principles and Practices

The definition of the first draft set of governance principles and practices was mainly driven by the CIO-Office. These principles were later refined with the involved business parties and are now shared in the organization through the intranet. According to the Director Value Management & Alliances (member of the CIO-Office): “These principles and practices are still challenged from time to time. Our position is that we are always open for discussion for each of these principles and practices, but up till now, we have each time in the end reconfirmed them”. The stated principles and practices apply for all business units and are presented in internal KLM presentations as shown in Figure 2. The involved parties acknowledge that this list does not really distinguish between principles and practices and presents them in a mixed way, but it was felt to be a pragmatic and practical list that was workable for KLM. The CIO-Office developed more detailed background information and internal documentation to explain the impact and consequences of each of these principles and practices.
The first key principle (1) states that, for the business, there should be no difference in dealing with an internal or external IT-provider. This recognizes that business should be in full control of all IT demand and IT spend (supply). Related to the latter, criteria were developed regarding choosing between allocating work in-house for customized development, or through external IT providers for standardised solutions. These 'selective sourcing’ agreements are internally referenced as the ‘Stay on the Surfboard Principle’ (Figure 3). Generic business processes that bring no competitive advantage (such as office support, collaboration and payroll) will be supported by generic (low development cost, off-the-shelf) applications packages. Business processes, which have the potential to create competitive advantage (such as CRM, revenue management), can and will be supported by in-house (higher development cost) custom-built applications. The VP CIO Office explains: “In the past, we evolved to a situation where many commodity services were built and maintained in-house, when businesses were only interested in a good service at low cost for these mainstream applications. The surfboard helped in the discussions on what and what not to outsource, and to bring the debate on ‘we want more IT for less money’ to another level, oriented towards ‘we need different IT for different businesses’”.

**Figure 2: Governance Principles and Practices**

1. For the business there should be no difference between working with an internal or external IT-provider.
2. Differentiate between WHAT and HOW (and WHY).
3. Improve the Demand-function by creating a Business Demand Office per business domain.
4. Improve the Supply function by creating an Innovation Organizer and a Service Manager per business domain.
5. Create monthly decision meetings of What and How (management and IT).
6. Focus on the cost that can be influenced in full and those that can be influenced in part: Split between Innovation and Continuity.
7. Each Innovation (investment) has one business owner to which all cost are charged.
8. Each Service (Continuity) has one business owner to which all cost are charged.
9. Top-down budget framework and simplified budget process.
10. Activity-Based Costing applied to process primary cost to product cost.
Figure 3: Stay on the Surfboard Principle

The next set of principles and practices (2 – 5) define a clear split between IT-related activities in terms of the WHAT-activities and HOW-activities, or in other terms between Demand and Supply. Before 2001, IT demand came in via 14 Information Management committees and numerous informal channels. According to the VP CIO-Office: “In the old situation, demand came in through too many different channels, and there was no coordination between those channels. For example, it could be that five similar investment requests were put forward, initiated from different business lines”. “Moreover”, as reinforced by the Director Value Management & Alliances, “some of the Information Management groups also managed a separate IT development team, leading to a very scattered approach”. To improve the demand function, all business demand for investments and innovation is now channelled via Business Demand Offices (BDOs) for the five business domains of KLM (Engineering and Maintenance, Cargo, Passenger Commercial, Passenger Operations, Corporate).

These BDOs are formally positioned in the business department in close contact with their EVPs and with a reporting line to the CIO. Commenting on this, the VP Finance and Control Ground Services says: “Putting the BDOs directly in the business was a very important governance design decision, as it enabled them to really act as business representatives”. Each BDO has a dedicated counterpart or mirror-role on the IT supply-side, called the ‘Innovation organiser’, responsible for all HOW-activity (see Figure 4). Realizing this split was a challenge, as the VP CIO-Office explains: “This clear distinction between demand and supply seems obvious, but it implied a huge effort in terms of company meetings, consultations and moving people”.

As stated in principle 6, a clear differentiation is established between the innovation cost that can be fully influenced by the business, and the continuity cost (running cost to ‘keep the lights on’) that can only be partly influenced. The innovation budget includes all manpower, purchases, work-by-3rd-parties and other out-of-pocket project cost required to build new IT services and functional changes to existing IT services (‘enhancements’). The BDOs register agreed ‘innovation’ work on the basis of which the Innovation Organiser coordinates IT-development, time-accounting and charge-out. The continuity budget includes cost for IT services, desktops, data communication and telecommunication and is managed, in terms of volume and quality, by the ‘exploitation manager’ on business side, together with the ‘business service manager’ on IT supply side (see
Figure 4). The objective of these business service managers is to deliver continuity of the KLM operations in an efficient way and at lowest IT cost.

**Figure 4: Mirror Roles between Business and IT**

This split between the innovation (programme) portfolio and the continuity (service) portfolio is internally explained with the image of ‘the bicycle’ (Figure 5). This ‘bicycle’ is mainly used as a visual aid to internally communicate at a high and conceptual level the split and relationship between the continuity and innovation budget. As visualised, the business/IT strategy drives the definition and application of the governance principles and priority rules and the definition of business cases. The approved business cases are managed in the programme (innovation cycle), which, after delivery, become operational services being deployed and administered in the service (continuity) portfolio. As a result of ongoing evaluation, services may continue with no change, re-enter the innovation cycle through a new business case, or be eliminated (retired).

**Figure 5: The Innovation-Continuity Bicycle**

All these roles created different decision platforms for IT related governance, as shown in Figure 6. There are a number of scheduled activities, involving different stakeholders and occurring at different frequencies, which occur throughout the year:
- Twice a year the Group Executive Committee is updated on how IT will respond to new challenges and directions in the businesses.
- The CEO, CFO, CIO and Business EVP’s meet every 2 months in the Business/IT Board to discuss and decide on strategic planning related to IT, and approve the IT budget and portfolio of programmes.
- The Management Team of the IT provider plus the 5 BDO’s meet monthly in the MT-IT, chaired by the CIO. They discuss and decide on tactical planning matters and prepare decisions for the business/IT board.
- Every 2 weeks the management team of Information Services meets to discuss and decide on operational and running issues.

**Figure 6: Enterprise Governance of IT Decision Platforms**

To manage the demand of the IT function for infrastructure investments, business cases for which have traditionally been difficult to justify, a separate BDO for the IT department was created. The Director Finance and Control IT Operations argues: “If, for example, you have a storage technology which cannot be virtualised, you may be able to build a business case to migrate to a new storage technology where virtualisation is possible, resulting in lower business service costs. But for other infrastructure type investments, such as the migration of operating systems, the business case will be built on a risk avoidance and cost of future operational support.” The IT-BDO, part of the CIO-Office, analyses future needs and capacity based on the incoming business cases of the businesses. Potential investments are then translated into an IT business case, and are discussed with the other BDOs in the ‘Information Security and Architecture Meeting’ (ISAM). Once approved, the CIO-Office takes ownership to implement these infrastructure services. If possible, such investments are linked to other business investments that are being planned.

Principles 7 to 10 address the budgeting and cost accounting processes. The previous process of charging out IT costs to the business, with more than 3,300 technical cost components being charged to more than 3,400 cost account centers, was unwieldy, and provided little useful management information. The VP Finance & Control Ground Services concluded: “As a result, business perceived IT as a black box which they could not control, and therefore as something that was very likely to be too expensive”. Drastic simplification of the budgeting process was needed, essentially from charging hundreds of technical items to hundreds of departments of users, to charging only seven products with associated cost: two for innovation and five for continuity, to twelve respective single/unique business owners (units). All budgets and costs (both continuity and innovation) are managed, forecasted and made transparent through a cost portal, driven by activity based costing principles, enabling clear and active ownership of the business of all IT related costs.
Portfolio Management

The above governance principles and practices were needed as key building blocks in support of having effective portfolio management processes driven by the business units. The design of these portfolio management processes was done by the Portfolio Management Office (part of the CIO-Office) and is shown in Figure 7. Three approval stages are defined, going from ‘idea selection’ to ‘programme go’ and ‘investment approval’. For each of these phases, clear decision thresholds were defined. For investments between 150,000 and 500,000 euro, the EVP, Director Finance and Control and BDO of a business unit could approve the go/no-go decision in each phase, investments above 500,000 euro are approved by the Business Unit Investment Committee (BIC), comprising the business unit COO, EVP, Director Finance and Control, and BDO and investments above 5,000,000 euro are approved by the Executive Committee (EC).

Figure 7: Portfolio Management Process

The initial phase (1) addresses the initiation of the investment proposals or idea generation. In this phase, all business ideas are gathered and captured by the BDOs (demand process) and turned into potential initiatives for which a high-level business case (HLBC) will be developed. These high-level business cases include descriptive information, classifications and high-level cost and benefits estimates and risk. The VP BDO Passenger Operations clarifies: “It is often hard to quantify some benefits at this stage. For example, the cost avoided of an aircraft not needing to land on another location because of better support systems. But still, we try to make as good as possible educated estimations”. If an initiative is approved (2), it is turned into a programme for which a full business case (BC) is developed based on a detailed feasibility study. To enable common and comparable business cases, a business case template was developed as a mandatory instrument for all investments above 150,000 euro.

In order to be able to prioritize all these business cases, it is crucial to know what the organization’s business drivers are. The Director Value Management and Alliances makes clear: “Our experience was that it was often difficult to obtain a clear list of business priorities from a business unit. However, we needed these priorities to enable the selection of ‘the right things’ and for that reason we used a methodology to help us and the business in making these business priorities transparent”. The business drivers of a business unit are captured by the CIO-Office through interviews with the business unit executives. In the example of the Passenger Operations business unit, seven different business priorities were identified (see Figure 8). Next, each of these business drivers are ranked through
a pair-wise comparison technique. Instead of just ranking the drivers from 1 to n, this technique relates each driver to the other drivers in terms of relative importance, ranging from ‘extremely less’ toward ‘extremely more’ in five sequential steps. (E.g. ‘competitive unit cost’ is relatively more important than ‘quality in physical comfort’). After completion of this pair-wise comparison by each of the executive directors, a prioritized list of the defined business drivers is created and normalised into percentages that sum up to 100% as shown in the Passenger Operations example below.

![Graph](attachment:image.png)

**Figure 8: Definition of the Business Drivers for Passenger Operations**

In the following step, the same pair-wise comparison technique is used to determine the contribution of the investment proposals to each business driver. For each investment proposal the contribution to each of the business drivers is determined, ranging from ‘low’ toward ‘extreme’. The result of these steps is an initial portfolio containing a ranked, but still unconstrained, list of all investment proposals at business unit level. The VP BDO Passenger Operations explains the importance of this process: “These priorities are the basis to build a ‘business plan’ for the BDO of a specific business unit, describing all the things that the BDO-office of a business unit can be held accountable for. I have even turned this business plan into a video clip on you-tube1, to demonstrate to all our business and IT stakeholders our commitment for the next year.”

After this prioritization, total demand of all business units typically exceeds the budget made available by the executive committee. The Director Value Management and Alliances describes how this is handled: “Instead of using a ‘cheese slicer’ and, for example, forcing all business units to cut 30% out of the project portfolio, a process of informal discussions is initiated between the BDOs to determine how the portfolio can best be optimized. As long as this process works, this approach is preferred instead of escalating to the next management level”. This process generally works well, and as a result, the business/IT board receives an overview of the major programmes and just has to endorse the outcome of the portfolio management process. The Director Value Management and Alliances concludes: “Through a good portfolio management process, we strive for seamless decision making”.

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1 See [http://www.youtube.com/watch?v=0kSONO_sCVE&feature=youtube_gdata](http://www.youtube.com/watch?v=0kSONO_sCVE&feature=youtube_gdata)
Once the portfolio of programmes is optimized, the business investment committee (for project above 500,000) or executive committee (for project above 5,000,000) still has to release the funding before design, construction, user acceptance testing (UAT) and implementation can start. This might appear as a duplicated decision structure, but it acts as a final check and it also gives the final authority and decision power back to the business executives. The VP BDO Passenger Operations explains: “In the end, the business executives decide. This approach helped in getting them engaged in the portfolio management process because they get their control back, although until now they have never ‘used’ it. Another important aspect in this context is that we try is to make the time between the business idea and approval on the investment committee as short as possible, as this period is perceived as ‘IT being slow’.”

**REPORTED BENEFITS**

During the interviews with the stakeholders in this case study, the following benefits of the improved enterprise governance of IT, which are discussed further in the following paragraphs, were consistently mentioned. They include:

- lower IT continuity cost per business production unit;
- increased capacity for innovation;
- increased alignment of investments to strategic goals
- more trust between all involved stakeholders; and
- moving beyond cost thinking towards a value culture.

**Lower IT continuity cost:** A primary goal of the CIO-Office is to continuously promote, improve and demonstrate the value of the enterprise governance of IT principles and practices in ensuring that IT-enabled investments contribute to real business value. In this effort, one of the metrics reported by the CIO-Office is the relation between all IT continuity costs and ‘Equivalent Available Seat Kilometers’ (EASK), the key metric used to monitor airline production, which represents the total number of seats and cargo capacity multiplied by the total number of kilometers flown by the airline fleet. The graph below shows that although many business investments involving IT, such as e-Tickets, more web-based sales and web-based check-in, resulted in a year-on-year increase in the total IT budget, the unit cost of providing IT services (IT Continuity cost) per airline production unit decreased by more than 20%. (The slight upward curve for the next 3 years is due to a temporary decrease of production in response to the world economic crisis.) This substitution of labour by IT also resulted in lower business cost per unit, since IT is cheaper than labour.
In innovation
Office increased in
novation capacity has increased as lower, or at least stable IT continuity costs contributed to freeing up financials for IT-based innovation. Again here, the CIO-Office develops metrics to demonstrate this outcome, of which one example is shown in Figure 10. This bar chart shows a relative stable IT continuity budget, enabling the increase of the total IT budget to go almost entirely to new innovation, which has increased from 25% in 2004/2005 to 39% in 2010/2011.

Figure 9: IT Continuity per Business Operation Cost

Figure 10: IT Continuity versus Innovation Budget
Increased alignment of investments to strategic goals: The use of an innovative and inclusive process to capture and prioritise the business drivers of business units has enabled investment decisions to move beyond what was previously a fairly arbitrary process (in the case of cost reductions), or a largely subjective and emotional discussion (in the case of new innovations), to a more objective one. The new process, which involves discussions with and between business units and the CIO-Office, is based on contribution of existing or proposed spend to business drivers. It has resulted in increased alignment of investment and spend with business unit drivers and strategic goals, and increased confidence in the decision-making process. This increased confidence has also resulted in the business/IT board spending less time debating the merits of major programmes and generally endorsing the outcome of the portfolio management process.

More trust: A fourth reported benefit is the increased trust between business and IT. The whole governance and portfolio management process has resulted in improved and more transparent decision-making. The results of the driver prioritization and investment contribution to the business strategy are visible for every manager and stakeholder involved. It makes it difficult for executives to overvalue their own favourite proposals. Because of this, there is more trust, and this helps in continuing the 'IT: a collaborative effort' journey.

A value culture: Finally, the process of managing the change towards improved enterprise governance of IT has its own benefits. The communication and discussions on portfolio management have improved management awareness and understanding, and supported the transformation from cost towards a value culture. It also continues to identify further opportunities to improve existing governance processes and practices.

Lessons Learned

In the course of the journey so far, a number of lessons have been learned. These lessons, which are discussed further below, include the importance of:

- senior management commitment;
- business engagement;
- proactively managing change;
- adequate and appropriate support resources; and
- taking a pragmatic, practical and evolutionary approach.

Senior management commitment: Senior management buy-in and the ‘tone-at-the top’ are crucial for success. Top management should be convinced of the need for more effective governance of IT, and their role in achieving this. It is crucial that they promote collaboration, teamwork and cross-silo working. It was felt that having a CIO coming out of the business units, and positioning the BDOs in the business units, helped in this challenge. Clear mantras such as ‘IT: a collaborative effort’, and comprehensive concepts developed by the CIO-Office such as the ‘surfboard’ and ‘bicycle’ were also strong enablers in getting the message across.

Business engagement: The implementation of portfolio management bottom up (from the business units) has resulted in strong engagement from the business units. However, this situation can become a hassle if executives (top-down) experience this as a loss of control. Continuous communication and transparency on the decision making process is crucial. Also mechanisms that ensure that the executives still feel in control (e.g. final investment approval process in the Investment Committee) helps in obtaining commitment of all parties.
Managing change: While considered a positive benefit, the transparency afforded by the governance and portfolio management process can also be its ‘Achilles heel’. Implementation of this portfolio management framework in an organization where transparency can be perceived as a possible threat will be confronted with resistance to change and attempts to get around it. Disputing the method, especially on its objectivity and rationality can become a favourite past-time. Therefore, each year the governance principles and practices are re-confirmed to retain focus.

Support resources: Implementation of these practices requires motivated and well-educated staff to implement and support the process. The role of the CIO-Office in KLM cannot be underestimated in this context. This 18-people strong function acts as a kind of ‘invisible hand’, continuously promoting and demonstrating the value of better enterprise IT governance principles and practices. This requires highly skilled and experienced people who are ‘accepted’ by the business and IT stakeholders, who understand the real business issues, can clarify the IT impact and identify potential IT enabled innovations.

Pragmatic evolution: With regard to the change process, it was found to be key to be pragmatic and practical in making well-defined and small steps, each with their own, sometimes-small benefits. The whole process should be regarded as evolutionary, always balancing the theoretical basis of portfolio management against organizational capabilities and maturity.

Continuing the Journey

The journey towards better enterprise governance of IT has been, and continues to be an enriching one, and many challenges have been overcome. However, as with any journey, there are still more challenges ahead which must also be overcome to ensure that the journey will be continued in a positive way. These challenges, which are described in more detail below, include:

- the need for more active benefits management;
- the continuous alignment between the availability and interdependencies between business and IT resources; and
- the aggregation of all business cases towards value generation for the KLM group as a whole.

Benefits management: The ultimate goal of enterprise governance of IT and portfolio management processes is to realize benefits out of IT-enabled investments. So it is important to actively manage the realization of benefits. In the words of the VP BDO Passenger Operations: “Of course, asking for money but not taking the consequence is too easy. So when there is a business case with ‘cost avoidance’ as benefit, this also leads to an adaption of the involved business budgets to ensure ownership of the benefits”. However, the process of benefits management remains very challenging and is not yet formalized. The VP Finance and Control Ground Services argues: “If we would sum up all business cases, KLM would be very rich and have no people working anymore. So benefits management and ownership is a difficult process, but the Directors Finance and Control can play an important role in putting the topic on the agenda of the business owners”.

Resource alignment: Another important element in the whole benefits realisation process is ensuring that the required business and IT resources are available and committed at the appropriate time. In the words of the VP BDO Passenger Operations: “New applications never change business behaviour. It is the business resources that have to generate the benefits and, at this moment, it is not always clear when and how these business resources will be committed."
The BDOs are very well positioned to facilitate the business change aspect, and this role is even embedded in our function description”. On the other hand, the business sometimes reports the opposite, claiming they are ready to start but having to wait for IT resources, as explained by the VP Finance and Control Ground Services: "We sometimes feel restricted by the resources not yet available through IT, if such situation becoming prevailing, the risk can emerge that that the business starts looking outside for external IT services”. Clearly, a continuous alignment between the availability and interdependencies between business and IT resources is an important success factor for effective portfolio management.

**Corporate level aggregation:** The individual business units drive the current portfolio management processes, with no real aggregation at KLM corporate level. In this way, a potential situation exists where some business units receive little or no money. The VP BDO Passenger Operations argues however: “Conceptually, a consolidation at group level would be desirable, but in the end, there is always the strong hand of finance over-viewing the whole budget, and a strong practical sense of reality. The business unit directors will never agree with ‘getting nothing’, but by the same token neither will they put forward unrealistic demands. For this process to be successful, leadership and the acceptance of this leadership, is important. The executive committee must play a crucial role in the optimisation at group level, they are responsible for turning all the crumbs of the business cases into a good-tasting cookie for the KLM group”.

**Conclusions and Recommendations for Executives**

This case describes KLM’s ongoing journey towards improved enterprise governance of IT, and discusses the results achieved, lessons learned, the challenges that had to be overcome, and those that remain. The implementation and ongoing assurance of enterprise governance of IT has restored trust between business and IT, lowered business operating costs through more rigorous selection of investments, and freed up funds for innovation. All involved parties have realized many other benefits from the ‘business change’ journey. The communication and discussions around portfolio management have improved understanding at the management level and continue to support the transformation from cost toward value thinking. KLM still has challenges ahead in further maturing the enterprise governance of IT. These challenges include a better process for measuring and managing the benefits realization, a continuous alignment of required business and IT resources and consolidation of the whole portfolio at Group level.

To transform an organization requires strength of leadership and clear direction. To do this successfully, whilst also seeking internal efficiencies and growth in existing and new markets carries high risks, but the organization which operates with a common purpose, and is fully committed to its programme of change from top to bottom can potentially reap high rewards. Although all organizations, including KLM, face some unique challenges, concerns around effective governance of IT, and the realization of real business value from today’s significant and increasingly complex investments in IT are a universal concern. Other organizations can certainly benefit from the experiences and lessons learned by KLM in this area.

The factors that have been key to KLM’s success to-date have been discussed throughout this document, and are summarized below. We recommend that all organizations with an interest in improving their governance of IT consider these factors, both in terms of assessing where they are today, and in planning the steps they need to take to improve their performance. The factors include:
- **Senior management commitment**: KLM’s success started with their senior management. They had a strong executive leadership team, who moved beyond awareness of a problem, through understanding the causes of the problem and what needed to be done, to commitment to a sustained programme of action which included both clearly communicating direction and priorities, and embedding a ‘value driven’ culture. They set the tone from the top, promoting teamwork and collaboration, and breaking down ‘silo thinking’;

- **Business engagement**: Effective enterprise governance of IT will not happen without adequate and appropriate business engagement. In KLM’s case, it was very instrumental to have a ‘business oriented’ CIO (coming out of the business). This further demonstrated senior management commitment, as well as establishing credibility and starting to break down the ‘we - they’ thinking between the IT and the other parts of the business which, in turn, lead to greater engagement, collaboration and partnership;

- **Distinguishing between the ‘what’ and the ‘how’**: Making a clear distinction between, and defining respective roles and responsibilities, regarding the ‘what’, i.e. the demand side, versus the ‘how’, i.e. the supply side, and the ‘investment’ versus the ‘continuity’ budget was a difficult, but essential step on the journey;

- **Defining key principles and practices**: Developing a small, clearly defined, simple and well communicated set of principles and practices for enterprise governance of IT, focused on putting the business in full control of all IT demand and IT spend. In developing these principles and practices, KLM did not get ‘bogged down’ in academic discussions about the difference between principles and practices, but presented them in a pragmatic and practical way that ‘worked for KLM’. They also supported them with more detailed background information and internal documentation to explain the impact and consequences of each of the principles and practices;

- **Positioning demand functions in the business**: Embedding the demand functions (BDOs) in the business organization was key to having them really act as business representatives, and reinforced the business responsibility for, and ownership of the ‘what’ decisions, and the results of those decisions;

- **Clear and transparent business drivers**: A clear and shared understanding of business drivers is critical in order to be able to prioritize investments, and enable the selection of ‘the right things’. KLM used an innovative methodology to help clarify their business drivers and make them transparent;

- **Standard business cases**: While, in some ways, the process of developing a business case is as important as the result, a standard template ensures that the content of the business case is consistent, comprehensive and comparable. In KLM’s case, they developed a standard business case template as a mandatory instrument for all investments above 150,000 euro.

- **A strong front-end demand process**: KLM established a rigorous process (through the BDOs) with intense scrutiny applied to the front-end review of each idea, initiative and business case. This allowed them to allocate funds appropriately by prioritising their investments in terms of their potential contribution to business drivers, and their ability to deliver them;

- **A clear and transparent portfolio management process**: in KLM’s case, the transparency of this process, with clarity of business drivers and investments’ contribution to those drivers, levelled the ‘playing field’,
established trust between all stakeholders, and avoided the traditional
decibel, or relationship-based decision-making approach;

- **An evolutionary approach:** KLM balanced theory and organizational and
cultural reality by taking a pragmatic and practical approach, making well
defined but sometimes-small steps, each with their own benefits. They are
continuing to evolve and move forward on their journey; and

- **A strong support group:** There is a need for a function to support the
implementation, adoption and on-going application and sustainment of
value management principles and practices. In KLM’s case, this was the
CIO-Office, who helped coach and embed enterprise governance of IT
thinking and practices into the organization.

Regarding the last point above, it is clear that the CIO-Office, with support from
the IT Controlling team, played a crucial role as change agent. This might appear
paradoxical, as enterprise governance of IT should be a prime responsibility of
the business. However, the CIO-Office managed to set out clear and solid
governance approaches and in this way acts as an ‘invisible hand’ in obtaining full
engagement of all business stakeholders. In this case, the role of the CIO-Office
in getting the IT governance discussion outside the IT area and into the business
responsibilities cannot be underestimated.

**RESEARCH APPROACH**

Our goal with this research project was to gain an in-depth understanding of how
KLM adopted enterprise governance of IT practices during the past decade, in
search of more value creation out of IT-enabled investments. Due to the
exploratory nature of this study, a qualitative research approach was adopted
based on in-depth case study research. Case research is particularly appropriate
for research within the IT-related area because researchers in this field are often
behind practitioners in discovering and explaining new methods and techniques
(Benbasat et al., 1987). This is certainly true for the concepts of enterprise
governance of IT. These are becoming increasingly popular in the business
community, but are primarily supported and promoted by practitioners, including
consultants. This is also the rationale behind the used single case study variant. A
single case design is appropriate when “the investigator has access to a situation
previously inaccessible to scientific observation” (Yin, 2003). As Benbasat et al.
(1987) we believe “that the case research strategy is well-suited to capturing the
knowledge of practitioners and developing theories from it”. As for the non-KLM
affiliated authors and researchers, their role was purely to act as observers who
were interested to investigate how enterprise governance of IT concepts, they
and other researchers had developed in earlier publications, were applied by
practitioners and how the experience and knowledge of practitioners could help to
improve the earlier proposed frameworks.

Data was captured through multiple interviews, discussions and conversations
with the Director Value Management and Alliances, who also provided access to
other internal information such as internal reports, presentations, minutes, etc.
To further triangulate the date, other in-depth interviews were done and tape-
recorded with the VP CIO-Office, the VP Finance and Control Ground Services, the
VP Business Development Office for Passenger Operations and the Director
Finance and Control IT Operations at the premises KLM in Schiphol Airport.

**REFERENCES**

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