

IS3103 Information Systems Leadership and Communication  
**Tutorial 2: “IT Enterprise Governance at KLM” Case Study**  
**(Week 5 – 7 Sep 2022)**

1. Explain the notion of IT productivity paradox and trace the evolution of the concept of EGIT.
2. Discuss why KLM embarked on the journey towards improved enterprise governance of IT.
3. Identify the key changes that the new CIO has made to improve the governance of IT in KLM.
4. What are the proposed changes that you think may face difficulties in implementation? What types of resistance will the CIO encounter? What are the important areas that you think need to be improved in the coming period?
5. 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 undoubtedly benefit from the experiences and lessons learned by KLM in this area.

After reading the case, what do you think are the factors that have been key to KLM’s success to date, and could as such be recommended to other organizations with an interest in improving their governance of IT?



## Teaching case

# Improving enterprise governance of IT in a major airline: a teaching case

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## Abstract

A common and critical dilemma confronting enterprises today is how to ensure that they realize 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 teaching case is about 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. Although KLM still has challenges ahead, the changes in structures, processes and relational mechanisms have helped to restore trust between the business and the IT organization, and lowered business operating costs through a more rigorous selection and portfolio management process. The changes have also increased the resources allocated to IT innovation. Although KLM faced some unique challenges as it began the journey to transform its enterprise governance of IT, the realization of greater business value from today's significant and increasingly complex investments in IT is a concern for all businesses. We therefore believe that the practices and lessons learned at KLM can be applied by other organizations as they seek to more fully engage their own business unit managers in IT investment decision making and in accountability for realizing business value.

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## 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, that is no clear correlation between IT spend and bottom-line impact (Strassman, 1990; Brynjolfsson, 1993; Masli *et al.* 2011), this pervasive use of IT calls for a specific focus on enterprise governance of IT (EGIT) (Thorp, 2003; De Haes and Van Grembergen, 2009). EGIT 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).

This teaching case is about 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. In the first section, the concept of EGIT is discussed in more detail, followed by a short introduction of the case company KLM. Next, the

KLM journey towards improved EGIT is discussed, including the reported benefits and lessons learned. Finally, a set of case study questions is provided to support further analyses and in-depth discussions on this case.

## The concept of EGIT

### Background and definition

IT and its use in business environments have experienced a fundamental transformation in the past decades. Since the introduction of IT in organizations, academics and practitioners conducted research and developed theories and best practices in this knowledge domain. In this evolution, 'IT governance' was one of the concepts that suddenly emerged and became an important topic. In 1998, the IT Governance Institute ([www.itgi.org](http://www.itgi.org)) was founded to disperse the IT governance concept. In academic and professional literature, articles mentioning IT governance in the title began to emerge

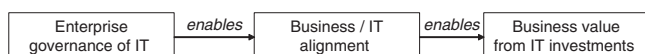
in the late 1990s. In the context of the leading academic conference Hawaii International Conference on Systems Sciences (HICSS), IT governance was defined as organizational capacity exercised by the board, executive management and IT management to control the formulation and implementation of IT strategy and in this way ensure the fusion of business and IT (Van Grembergen, 2002).

After the emergence of the IT governance concepts, the notion received a lot of attention. However, due the focus on 'IT' in the naming of the concept, the IT governance discussion mainly stayed a discussion within the IT area. (Van Grembergen and De Haes, 2010) In the field, many IT governance implementations are driven by IT, while one would expect that the business would and should take a leading role here as well. It is clear that business value from IT investments cannot be realized by IT, but will always be created at the business side. For example, there will be no business value created when IT delivers a new Customer Relationship Management (CRM) application on time, on budget and within functionalities, and when afterwards the business is not integrating the new IT system into its business operations. Business value will only be created when new and adequate business processes are designed and executed enabling the sales people of the organization to increase turnover and profit. (Thorp, 2003; Van Grembergen and De Haes, 2009).

This discussion raised the issue that the involvement of business is crucial and initiated a shift in the wording, focusing on the business involvement, towards 'enterprise governance of IT'. As defined in Van Grembergen and De Haes (2009), EGIT is an integral part of corporate 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 from IT-enabled investments (see Figure 1).

EGIT clearly goes beyond the IT-related responsibilities and expands towards (IT-related) business processes needed for business value creation. Also the standardization organization ISO moved into this direction, with the release in 2008 a new worldwide standard defined as 'Corporate Governance of IT' (ISO/IEC 38500:2008 (2008)). In this standard, ISO puts forward six principles for governance of IT, addressing both business' and IT's roles and responsibilities, that express preferred behaviour to guide IT-related decision making. In the same line of thinking, ISACA (the international non-profit membership organization for IT governance, management and audit professionals, [www.isaca.org](http://www.isaca.org)) shifted its terminology from 'IT governance' towards 'Governance of Enterprise IT' and embraced more business responsibilities in its best-practice framework COBIT 5 (De Haes *et al.* 2013).

This change in naming and focus, from 'IT governance' towards 'Enterprise Governance of IT', might appear subtle and not ground-breaking, but it implies a crucial shift in the minds of business people. The case study under review in the manuscript illustrates how KLM experienced this journey towards more business involvement.



**Figure 1** Enterprise governance of IT, business/IT alignment and business value.

## EGIT in practice

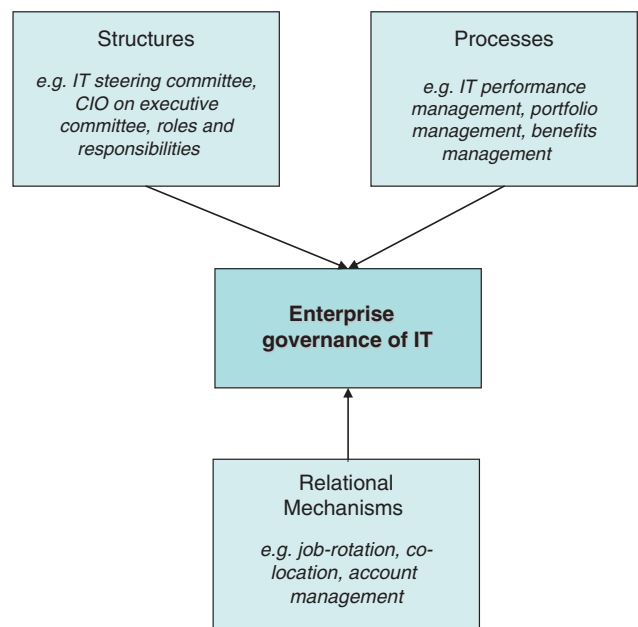
Having developed a high-level model for EGIT does not imply that governance is actually working in the organization. Conceiving the EGIT model is the first step, implementing it into a sustainable solution is the next challenging step.

Organizations can and are deploying EGIT by using a holistic mixture of various structures, processes and relational mechanisms (De Haes and Van Grembergen, 2009). EGIT structures include organizational units and roles responsible for making IT decisions and for enabling contacts between business and IT management decision making functions (e.g. IT steering committee). This can be seen as a kind of blueprint of how the governance framework will be structurally organized. EGIT processes refer to the formalization and institutionalization of strategic IT decision making and IT monitoring procedures, to ensure that daily behaviours are consistent with policies and provide input back to decisions (e.g. IT-balanced scorecard). The relational mechanisms finally are about the active participation of, and collaborative relationship among, corporate executives, IT management and business management, and include announcements, advocates, channels and education efforts. Some examples of these structures, processes and relational mechanisms are provided in Figure 2.

Of course, it should be noted that a 'silver bullet approach' does not exist in this matter. Each organization has to select its own set of EGIT practices, suitable for their sector, size, culture etc. (De Haes and Van Grembergen, 2009). The KLM case described in this manuscript reveals the practices that were leveraged in this airline to support the evolution towards an improved EGIT.

## The case company KLM

The airline company KLM was founded in 1919, and has its home base and hub in Amsterdam Schiphol Airport



**Figure 2** Structures, processes and relational mechanisms for enterprise governance of IT.

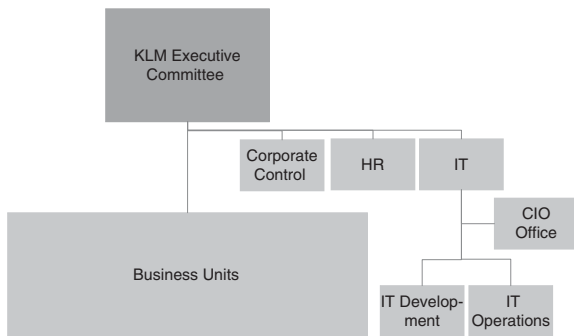


Figure 3 KLM structure.

(The Netherlands). 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.

This case focuses on the KLM activities within the Air France-KLM group. The KLM Executive Committee (EC) (Figure 3) is composed of the CEO, CFO, Managing Director and all Executive Vice Presidents (EVPs) of the major business units and services (Commercial, In-flight Services, Operations, Ground Services, Cargo, Engineering & Maintenance, IT and HR). As shown in Figure 3, 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.

As discussed in the next sections, this case goes back to the initial situation when there was a strong lack of trust towards the IT department's skills and competencies, combined with a dramatic business and economic climate. These ingredients were the trigger points that created the necessary awareness regarding the problem and initiated the improvement programme for EGIT.

### The ongoing journey of EGIT

This section describes KLM's ongoing journey towards improved EGIT. 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. All of this happened in a business and economic climate that was increasingly challenging, and which became dramatic for the airline business after the 9/11 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 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 as follows:

1. Provide the reasons why, or why not, to outsource IT.
2. Create a business/IT board to organize joint success.
3. Design simple governance principles to restore control enabling steering by the 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 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.*

#### 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 EVPs, 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 Box 1. 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 standardized solutions. These 'selective sourcing' agreements are internally referenced as the 'Stay on the Surfboard Principle' (Figure 4). 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) application 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'.*

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 say: *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 organizer', responsible for all HOW-activity (see Figure 5). 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

#### Box 1 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 can be influenced in part: split between innovation and continuity.
7. Each innovation (investment) has one business owner to which all costs 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.

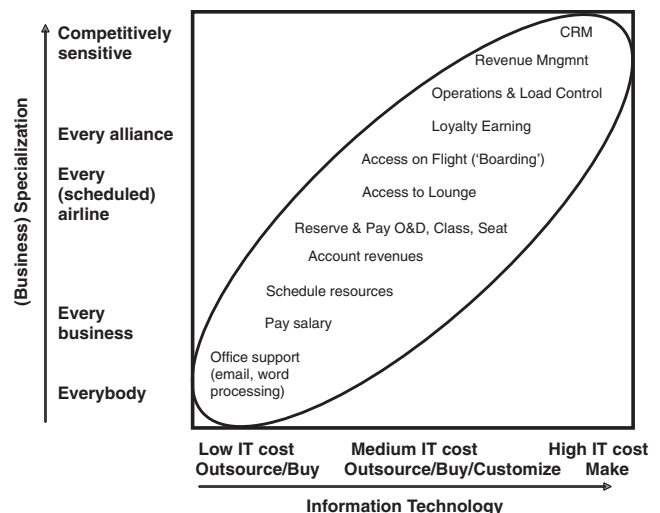


Figure 4 Stay on the surfboard principle.



(‘enhancements’). The BDOs register agreed ‘innovation’ work on the basis of which the Innovation Organizer 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 5). The objective of these business service managers is to deliver continuity of the KLM operations in an efficient way and at lowest IT cost.

This split between the innovation (programme) portfolio and the continuity (service) portfolio is internally explained with the image of ‘the bicycle’ (Figure 6). 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 visualized, the business/IT strategy drives the definition and application of the governance principles and priority rules and the definition of business cases (BCs). The approved BCs 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 on-going evaluation, services may continue with no change, re-enter the innovation cycle through a new BC or be eliminated (retired).

All these roles created different decision platforms for IT-related governance, as shown in Figure 7. There are a number of scheduled activities, involving different stakeholders and occurring at different frequencies, which occur throughout the year. They are as follows:

- Twice a year the Group EC is updated on how IT will respond to new challenges and directions in the businesses.
- The CEO, CFO, CIO and Business EVPs 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 five BDOs 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.

To manage the demand of the IT function for infrastructure investments, BCs that 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*

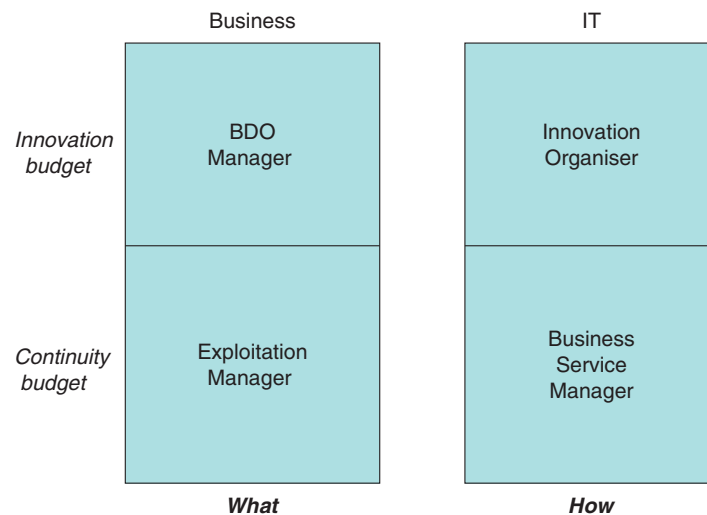


Figure 5 Mirror roles between business and IT.

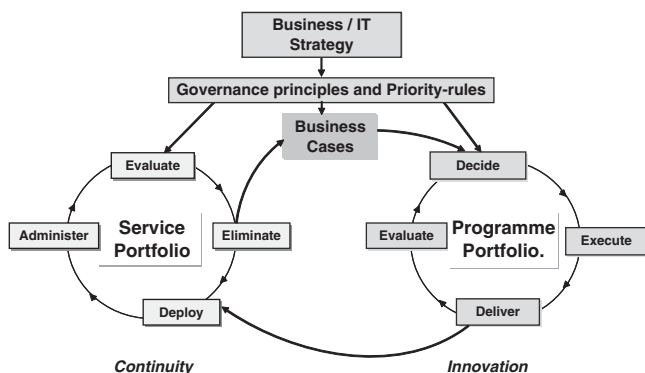


Figure 6 The innovation-continuity bicycle.

- Match of business and IT strategy
- IT budget & portfolio.
- Escalation of the most important IT programmes
- Preparation of decisions in IT Board; Tactical planning.
- IT Operational management and planning.



Figure 7 Enterprise governance of IT decision platforms.

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 BCs of the businesses. Potential investments are then translated into an IT BC, and are discussed with the other BDOs in the 'Information Security and Architecture Meeting'. 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 7–10 address the budgeting and cost accounting processes. The previous process of charging out IT costs to the business, with more than 3300 technical cost components being charged to more than 3400 cost account centres, 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 12 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 8. 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, comprising the business unit COO, EVP, Director Finance and Control, and BDO and investments above 5,000,000 euro are approved by the EC.

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 HLBCs 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 BC is developed based on a detailed feasibility study. To enable common and comparable BCs, a BC template was developed as a mandatory instrument for all investments above 150,000 euro.

In order to be able to prioritize all these BCs, 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 9). 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' towards '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

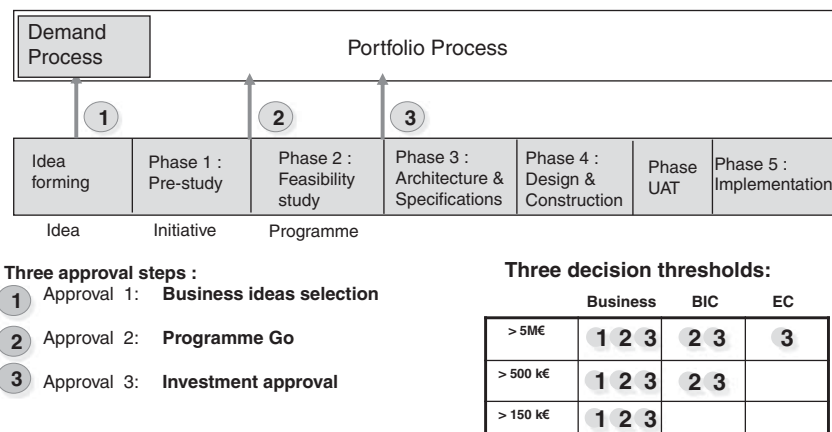


Figure 8 Portfolio management process.

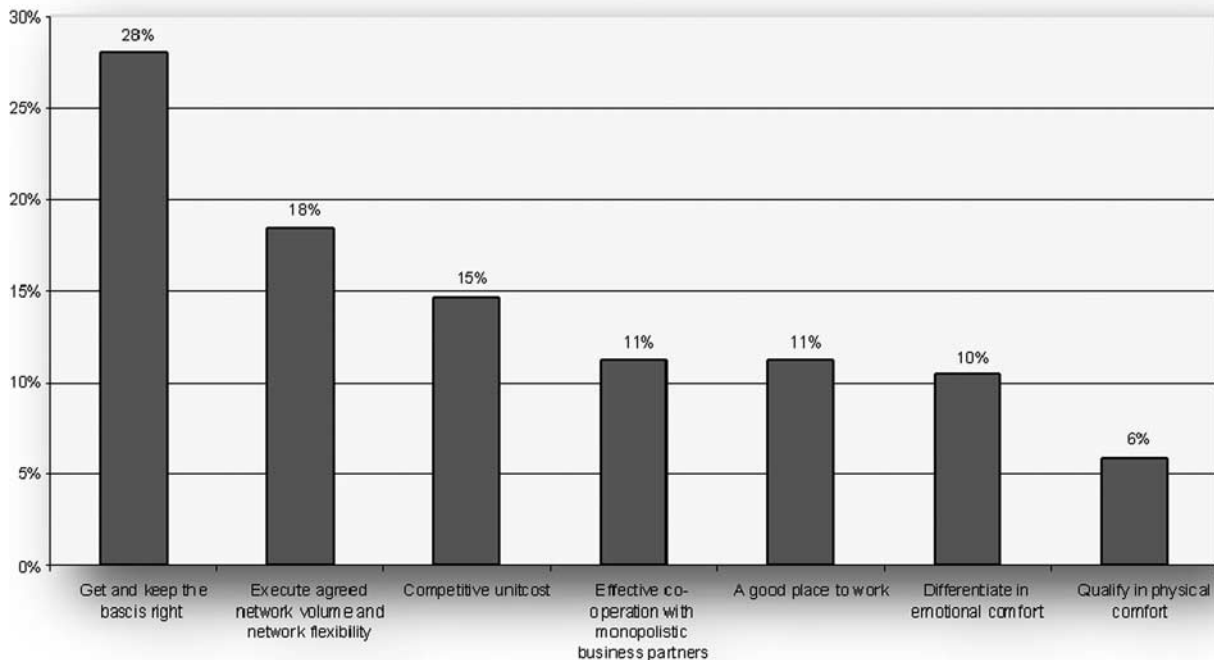


Figure 9 Definition of the business drivers for passenger operations.

created and normalized into percentages that sum up to 100% as shown in the Passenger Operations example below.

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' towards '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-tube, 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 EC. 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.*

Once the portfolio of programmes is optimized, the business investment committee (for project above 500,000) or EC (for project above 5,000,000) still has to release the funding

before design, construction, user acceptance testing 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 EGIT, which are discussed further in the following paragraphs, were consistently mentioned. They include the following:

- 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.
- 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 EGIT 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 Kilometres', the key metric used to monitor airline production, which represents the total number of seats and cargo capacity



multiplied by the total number of kilometres flown by the airline fleet. The graph in Figure 10 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.

#### Increased innovation capacity

In addition to direct cost savings, the innovation 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 11. 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.

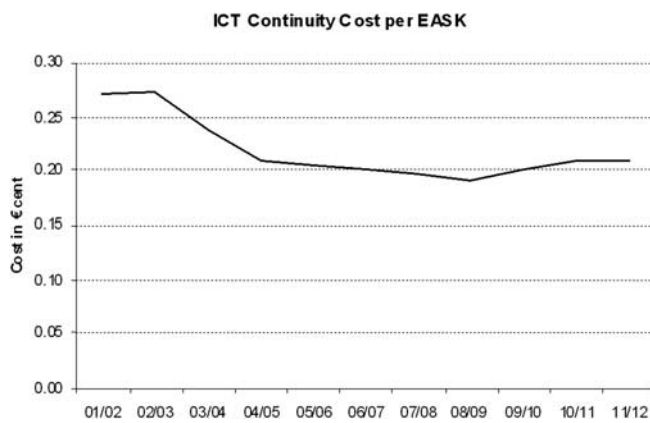


Figure 10 IT continuity per business operation cost.

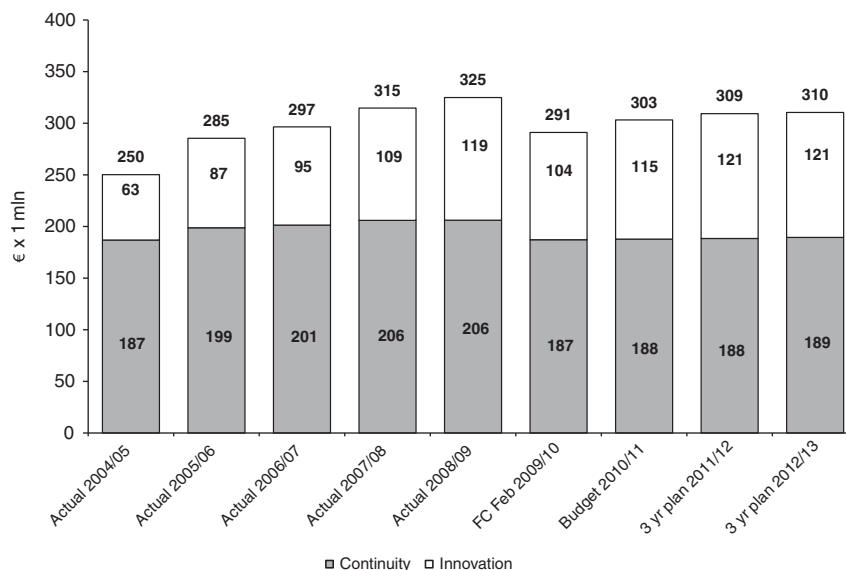


Figure 11 IT continuity vs innovation budget.

#### Increased alignment of investments to strategic goals

The use of an innovative and inclusive process to capture and prioritize 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 EGIT 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) help 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.

## Note

- 1 An earlier version of this case has been published in: De Haes *et al.* (2011)

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