MIS Quarterly Executive

Volume 10 | Issue 3 Article 6

11-26-2011

# KLM's Enterprise Governance of IT Journey: From Managing IT Costs to Managing Business Value

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# KLM's Enterprise Governance of IT Journey: From Managing IT Costs to Managing Business Value[1]

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***Executive Summary***

*A common and critical dilemma confronting enterprises today is how to ensure that they realize more value from their large-scale investments in IT and IT-enabled change. This article describes the choices made by the Dutch airline KLM to more fully engage its business managers in the governance of IT and the change-agent role played by a new CIO Office. The article identifies the benefits achieved and lessons learned thus far as the company has evolved from managing the cost of IT toward managing the business value of IT.*

## INTRODUCTION

IT has become crucial for supporting, sustaining, and the growth of most enterprises. Yet the business value from IT investments cannot be realized by the IT function; it needs to be created by the business through its use of IT. As Weill and Ross have described: "If senior managers do not accept accountability for IT, the company will inevitably throw its IT money at a myriad of tactical initiatives with no significant impact on the organizational capabilities."[2] In this scenario, IT can become a liability instead of a strategic asset. But moving away from managing IT as a cost toward managing it as an asset, with business managers taking ownership of and being accountable for creating value from IT investments and IT-enabled change, is a journey that requires a new way of thinking.

This article describes how KLM, an international airline based in the Netherlands, embarked on a multi-year journey to change its enterprise governance of IT, and the progress to date. The authors of this article recognize that KLM's governance choices were in response to specific internal challenges and may not be the "right" choices for other businesses at a given point in time. Nevertheless, we believe that the KLM case provides useful lessons on engaging business managers in IT governance that other companies can benefit from. (The research approach used to gather information for this case study is described in the Appendix.)

After providing a short introduction to KLM, we describe the key principles, structures, processes, and relational mechanisms that the company implemented in its journey toward better enterprise governance of IT.[3] This is followed by a discussion of the benefits flowing from the governance changes. The paper concludes with the

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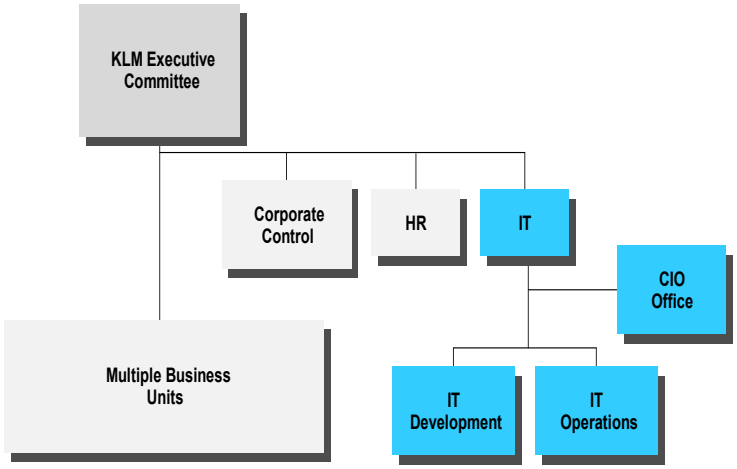
1 Carol Brown is the accepting Senior Editor for this article. An earlier version of this paper received an Honorable Mention award in the 2010 SIM Best Paper Competition

2 Weill, P., and Ross, J. *IT Savvy: What Top Executives Must Know to Go from Pain to Gain,* Harvard Business Press, 2009, p. 9

3 In preparing this article, the authors have used the definition of enterprise governance of IT set out in Van Grembergen, W., and De Haes, S. *Enterprise Governance of IT: Achieving Strategic Alignment and Value,* Springer, 2009. That definition is "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."

Figure 1: KLM Structure




lessons[4] from KLM's experiences that can be applied by executives in other enterprises.

## A BRIEF INTRODUCTION TO KLM

KLM was founded in 1919 and has its home base and hub at Schiphol Airport, Amsterdam. In 2004, KLM merged with Air France, after which both companies continued to operate as separate airlines, each with its own identity and brand, but each benefiting from the other's strengths. In 2009, Air France-KLM operated flights to 255 destinations in 115 countries on four continents. In 2010, KLM employed over 33,000 people worldwide and had a fleet of about 200 aircraft. This case study focuses on the KLM activities within the Air France-KLM group.

KLM's corporate structure is depicted in Figure 1. The KLM Executive Committee comprises the CEO, CFO, Managing Director, and the Executive Vice Presidents (EVPs) of the major business units and services—Commercial, In-flight Services (cabin and catering), Operations (flight operations, fleet services, operations control), Ground Services, Cargo, Engineering and Maintenance, IT, and HR.

In 2009-10, the IT function at KLM employed close to 1,000 (internal and external) full-time equivalents, with an IT budget of around €300 million ($432 million). As shown in Figure 1, the IT organization has three major units: the traditional IT development and IT operations units, and the CIO Office, with responsibilities for enterprise/IT architecture, IT strategy, IT value and portfolio management, IT sourcing strategy, and IT risk and security. The mission of the IT organization is to "create business value by delivering reliable IT services to the business processes, and innovative IT solutions to enable and support business changes." It has the following three strategic goals to support this mission:

- IT is a world-class information services provider and will be able to deliver the best value to the company
- IT cost-levels will be at a competitive industry level
- The IT architecture and infrastructure will enable the growth ambitions of Air France-KLM.

## THE JOURNEY TOWARD IMPROVED ENTERPRISE GOVERNANCE OF IT

KLM's ongoing journey toward improved enterprise governance of IT began in 2001. After describing the trigger points, we discuss the approaches applied to embark on the journey and to develop better governance principles and practices.

4 In analyzing the KLM case, experiences from other case organizations studied by the authors were valuable in crystallizing the ideas and lessons learned. See Thorp, J. *The Information Paradox,* McGraw-Hill Reyerson, 2003, and Van Grembergen, W., and De Haes, S. *Implementing Information Technology Governance: Models, Practices, and Cases,* IGI Publishing, 2008

### Trigger Points

IT is a business-critical enabler for KLM, but in 2001, there was a lack of trust in what was perceived as a very costly and unresponsive IT department. The business climate for the airline industry had become increasingly challenging and became dramatically more so after the 9/11 terrorist attacks in 2001. After 9/11, 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 (part of the Operations Business Unit) was appointed as the new CIO. A primary reason for choosing an executive coming from outside the IT area was that that this executive could help move the IT governance discussion onto the business executives' agenda. The newly appointed CIO was given three clear priorities to address the trust and cost concerns about IT:

1. Provide the reasons why, or why not, to outsource IT
2. Create a business/IT board to organize joint success
3. Design simple IT governance principles to restore cost controls and enable steering by the EVPs and CIO.

In addition, a new CIO Office was established to consolidate several already existing but loosely coupled IT functions, including an IT Strategy Office, IT Program Management, and business/IT liaison roles. The intent was to create an internal office that could enable effective IT in support of business needs under different IT sourcing alternatives. The VP of the CIO Office explained:

> *"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."*

As described below, the IT department was not outsourced, but a decision framework was developed to help in choosing between allocating work in-house or to external IT providers. There should be no difference in dealing with an internal or external IT provider and the embedded governance structures and practices needed to enable this.

### Embarking on the Journey

Under the new CIO, work began on a set of governance principles that would increase business ownership and accountability for IT investment decisions. Also, clear sourcing criteria were needed to decide whether to use internal or external resources.

The first draft set of governance principles and sourcing criteria were developed mainly by the CIO Office. The principles and criteria were later refined with the involved business parties and are now shared throughout the organization via the intranet. The stated principles and criteria were positioned as "the only way of working" between the business and IT, and applied to all business units and activities According to the Director, Value Management and Alliances within 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."*

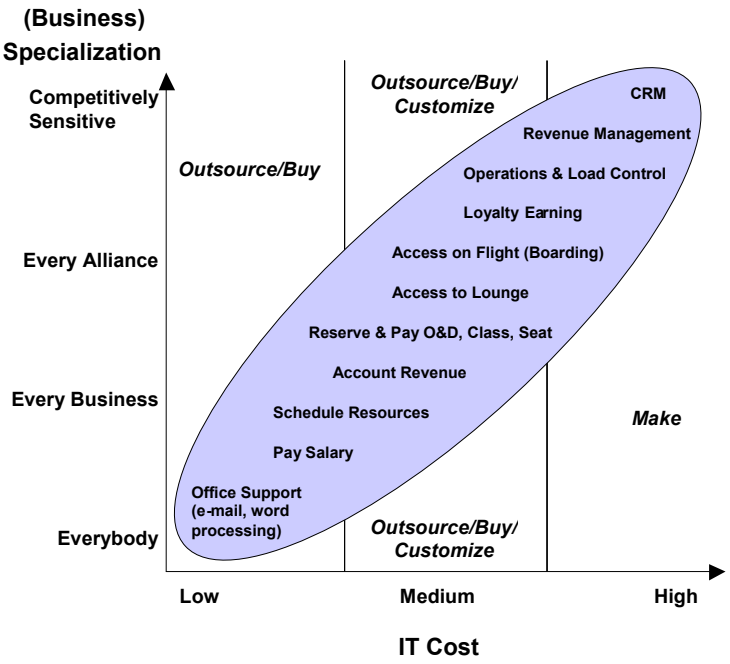
## KEY ELEMENTS OF THE GOVERNANCE PRINCIPLES AND SOURCING CRITERIA

### Sourcing Decisions: Stay on the Surfboard Principle

Criteria were developed for choosing between allocating work in-house for customized development or to external IT providers for standardized solutions. These "selective sourcing" criteria are internally referenced as the "Stay on the Surfboard Principle." As shown in Figure 2, generic business processes that provide 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 that have the potential to create competitive advantage (such as CRM, revenue management) will be supported by in-house (higher development cost) custom-built applications. The VP of the CIO Office explained:

> *"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*

Figure 2: Stay on the Surfboard Principle




*level, oriented toward 'We need different IT for different businesses.'"*

## Split Between Innovation and Continuity Costs: The Innovation-Continuity "Bicycle"

KLM clearly differentiates between Innovation costs that can be fully influenced by the business and Continuity costs (running costs to "keep the lights on") that can only be partly influenced. The Innovation budget includes all manpower, purchases, work by third parties, and other project costs required to build new IT services and functional changes to existing IT services ("enhancements"). The Continuity budget includes costs for IT services, desktops, data communications, and telecommunications.

This split between the Innovation (program) portfolio and the Continuity (service) portfolio is explained through "the Innovation-Continuity Bicycle" (see Figure 3). This bicycle is used mainly as a visual aid to internally communicate at a high and conceptual level the split and relationship between the Continuity and Innovation budgets.

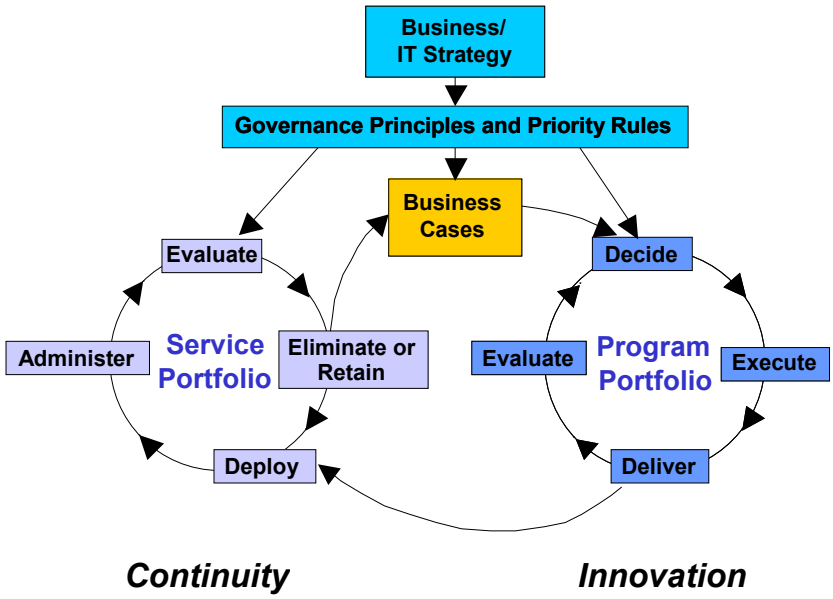
As shown in the figure, the business/IT strategy drives the definition and application of the governance principles and priority rules and the definition of business cases. The approved business cases are managed in the program portfolio (Innovation cycle). After delivery, applications become operational services that are deployed and administered in the service portfolio (Continuity). 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).

## Split Between Demand and Supply: Mirror Business and IT Roles

Another set of principles defines a clear split between IT-related activities in terms of *what* activities and *how* activities, or in other words, between demand and supply. Before 2001, IT demand was generated by 14 different Information Management committees and numerous informal channels. Moreover, some of the Information Management groups also managed a separate IT development team. According to the VP of the 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."*

Figure 3: The Innovation-Continuity "Bicycle"




To improve budgeting for the demand function, all business demand for Innovation and Continuity is now channeled via Business Demand Offices (BDOs) for each of KLM's five business domains (Engineering and Maintenance, Cargo, Passenger Commercial, Passenger Operations, and Corporate). The BDOs are formally positioned in the business departments with a direct reporting line to their EVPs and a dotted reporting line to the CIO. Commenting on this, the VP Finance and Control Ground Services said:

> *"Putting the BDOs directly in the business was a very important governance design decision, as it enabled them to really act as business representatives."*

The demand for Innovation is captured by the BDO manager. He or she has a dedicated counterpart, or mirror, on the IT supply-side, called the "Innovation Organizer," who is responsible for all *how* activities (see Figure 4). Implementing these "mirror" roles 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."*

To manage the demand for IT infrastructure investments—the business cases which have traditionally been difficult to justify—a separate BDO for the IT department was created within the CIO Office. The Director Finance and Control IT Operations argued:

> *"If, for example, you have a storage technology which cannot be virtualized, you may be able to build a business case to migrate to a new storage technology where virtualization 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 analyzes future IT infrastructure needs and capacity based on the incoming business cases from the businesses. Potential infrastructure investments are then translated into an IT business case and are discussed in the IT Management Team with the other BDO's. Once approved, the CIO Office takes ownership of implementing the infrastructure services. If possible, such investments are linked to other business investments that are being planned.

Similar mirror roles are created for the Continuity IT budget (also shown in Figure 4). Continuity demand is managed, in terms of volume and quality, by the "Exploitation Manager" on the business side (also part of the BDO), together with the "Business Service Manager" on IT supply side. The objective of the Business Service Managers is to deliver continuity of

Figure 4: Mirror Business and IT Roles for Managing IT Demand and Supply

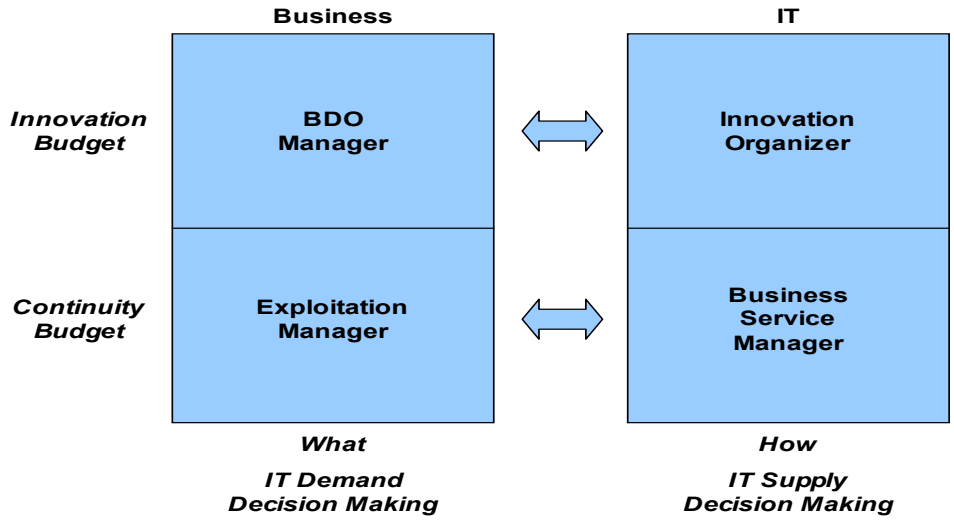



Table 1: Decision Layers for Enterprise Governance of IT

| Committee Name | Role | Membership | Frequency |
|---|---|---|---|
| Executive Committee | Matching business and IT strategies | All group Executive Committee members | Twice a year |
| Business/IT Board | Managing the IT budget and portfolio<br><br>Escalating the most important IT programs | CEO, CFO, CIO, and business EVPs | Every two months |
| IT Management Team | Preparing decisions for Business/IT Board<br><br>Tactical planning | IT Management Team and BDOs | Monthly |
| CIO/Information Services Management Team | Managing and planning IT operations | Information Services Management Team | Every two weeks |

KLM's operations in an efficient way and at lowest IT cost.

## Four Decision Layers of the Enterprise Governance of IT Structure

The mirror roles described above have led to the four decision layers for IT-related governance shown in Table 1. There is a committee for each layer, with scheduled activities involving different stakeholders and occurring at different frequencies:

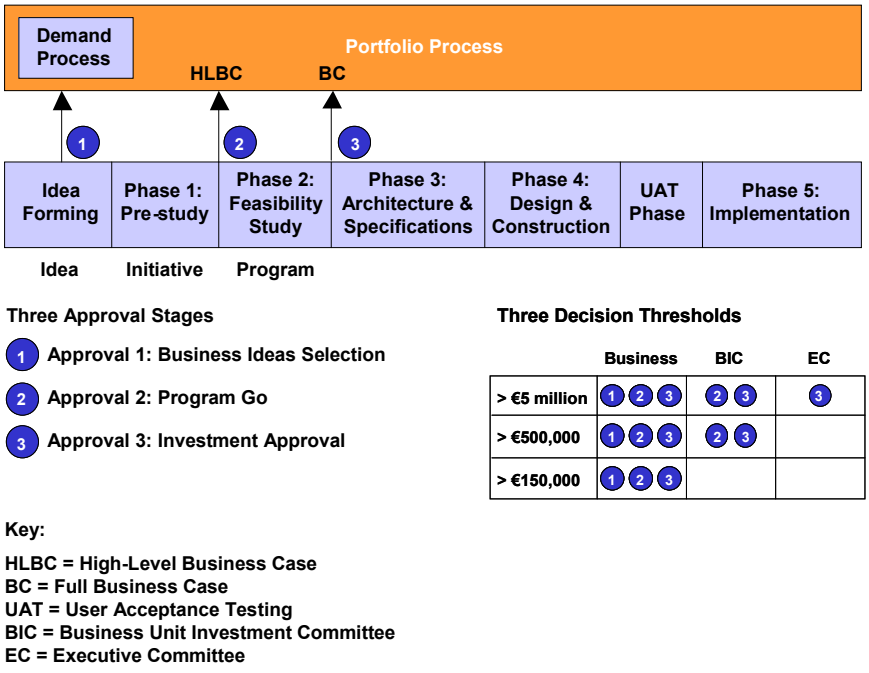
## Simple and Activity-Based Cost Accounting

Prior to 2001, IT costs were charged out to the business, with more than 3,300 technical cost components being charged to more than 3,400 cost account centers. This process was unwieldy and provided little useful management information. The VP Finance and Control Ground Services observed:

> *"As a result, the 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 chargeback process was needed, essentially moving from charging hundreds of technical items to hundreds of user departments to charging the costs of only seven products (two for Innovation and five for Continuity) to 12 business owners (units). All budgets and costs (both Continuity and Innovation) are now managed, forecast, and made transparent through a cost portal, driven by activity-

Figure 5: Portfolio Management Process




based costing principles to enable clear and active ownership by the business of all IT-related costs.

## Portfolio Management Based on Business Drivers

As shown in Figure 5, there are three approval stages in the portfolio management process: "Business Ideas Selection," "Program Go," and "Investment Approval." Clear decision thresholds were defined. For investments between €150,000 and €500,000 ($216,000 to $719,000), the EVP, Director Finance and Control, and BDO of a business unit could approve the go/no-go decision at each stage. Investments above €500,000 are approved by the Business Unit Investment Committee (BIC), comprising the business unit COO, EVP, Director Finance and Control, and BDO. Investments above €5,000,000 are approved by the Executive Committee.

For the first approval (Stage 1), business ideas are gathered and captured by the BDOs (demand process) and high-level business cases are developed (descriptive information, classifications of high-level costs and benefits estimates and risk). Approved initiatives become programs for which a full business case is developed based on a detailed feasibility study. To enable comparisons, a business case template was developed, and its use is mandatory for all investments above €150,000.

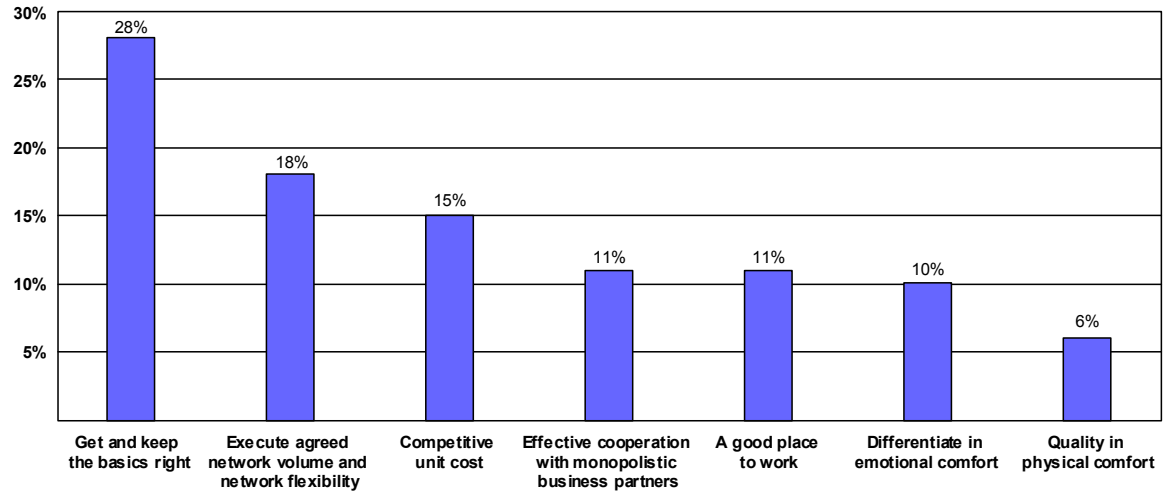
In addition, a new process was developed for prioritizing IT investments proposed at the business unit level, based on how a given proposal addressed the key business drivers for that business unit. The need for this process was described by the Director, Value Management and Alliances as follows:

> *"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 CIO Office assists in capturing the business drivers by interviewing the business unit executives, who then rank the drivers using a pair-wise comparison technique. Figure 6 shows the weighted business drivers for the Passenger Operations business unit.

The same pair-wise comparison technique is then used to determine the contribution of each of the IT investment proposals to each of the unit's business drivers. This results in an initial portfolio containing a ranked, but still unconstrained, list of all investment

Figure 6: Weighted Business Drivers for the Passenger Operations Business Unit




proposals at the business unit level. The VP of the BDO for Passenger Operations explained 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 of a business unit can be held accountable for. I have even turned this business plan into a video clip on YouTube, to demonstrate to all our business and IT stakeholders our commitment for the next year."*

The BDOs then work together to determine the best portfolio of programs within the budget set by the Executive Committee. The Director, Value Management and Alliances described 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."*

The objective of the BDOs' deliberations is to submit to the Business/IT Board a summary of the major programs for a given budget plan. If endorsed, further program approvals are then requested from the Business Unit Investment Committee (for programs above €500,000) or the Executive Committee (for programs above €5,000,000). Thus the final authority and decision power lies with business executives. The VP BDO Passenger Operations explained:

> *"In the end, the business executives decide. This approach helps in getting them engaged in the portfolio management process because the control resides with them."*

The individual business units are clearly driving the portfolio management processes. Although this bottom-up approach achieves the goal of increasing business unit accountability, there is no real aggregation at corporate level (the KLM Executive Committee Level shown in Figure 1). However, the VP BDO Passenger Operations argued:

> *"The Executive Committee must play a crucial role in the optimization at group level; it is responsible for turning all the crumbs of the business cases into a good-tasting cookie for the KLM group."*

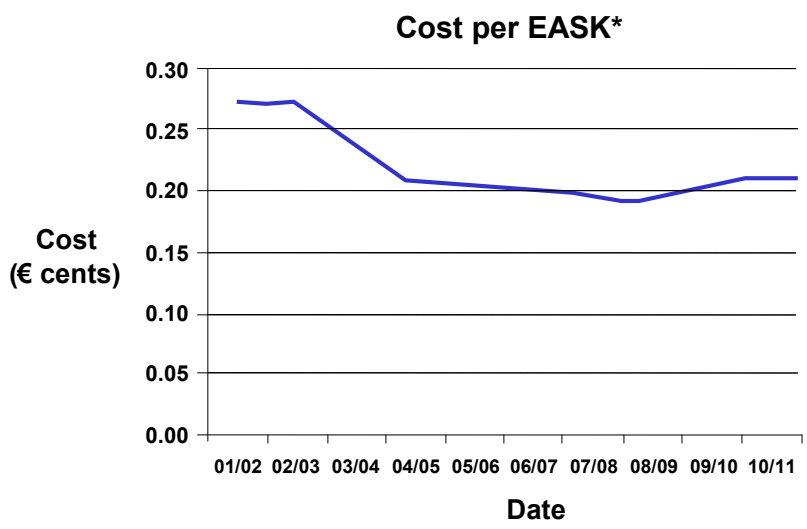
## BENEFITS ACHIEVED

A primary goal of the CIO and the CIO Office is to continuously promote, improve, and demonstrate how the enterprise governance of IT principles and practices introduced at KLM helps to ensure that IT-enabled investments contribute to business value. During interviews with the stakeholders in this case study, we identified the following five benefits flowing from the enterprise governance of IT changes.

### *1. Lower IT Continuity Costs*

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.

Figure 7: IT Continuity Cost per Unit of Airline Production




* EASK = Total seats and cargo capacity x kilometers flown by airline fleet

(EASK is the total number of seats and cargo capacity multiplied by the total number of kilometers flown by the airline fleet.) The graph above shows that between 2001-02 and 2010-11, the unit cost of providing IT services (IT Continuity cost) per airline production unit decreased by more than 20%. This decrease was achieved even though 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 slight upward trend in Continuity cost for the three years commencing 2009 is due to a temporary decrease in airline operations in response to the world economic crisis.) This substitution of labor by IT also resulted in lower business cost per unit, since IT is cheaper than labor.

### 2. Increased IT Innovation Capacity

In addition to direct cost savings, KLM's Innovation capacity has increased as lower, or at least stable, IT Continuity costs contributed to freeing up financial resources for IT-based innovation. Again here, the CIO Office develops metrics to demonstrate this outcome, one example of which is shown in Figure 8. This bar chart shows a relatively stable IT Continuity budget, enabling the increase of the total IT budget to be used almost entirely for Innovation, which has increased from 25% of the total in 2004-05 to 39% in 2010-11, despite the global recession.

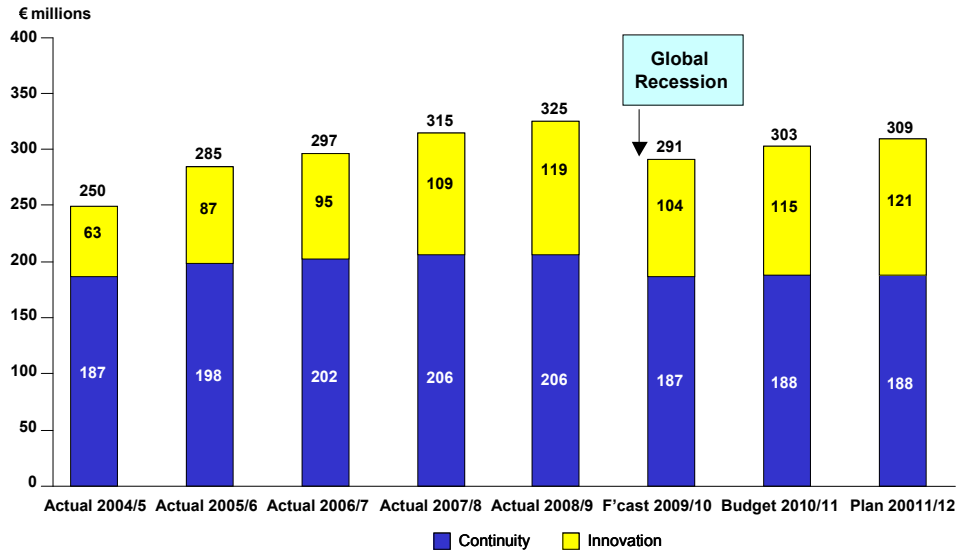
### 3. Increased Alignment of Investments to Business Unit Goals

Prior to 2001, IT investment decisions were viewed as fairly arbitrary (in the case of cost reductions) or largely based on subjective and emotional discussions (in the case of new innovations). However, the new and inclusive process to capture and prioritize the business drivers of business units has enabled the investment process to become more objective. The new process, which involves discussions with and between business units and the CIO Office, is based on assessing a proposal's contribution to business drivers in a transparent way. It has resulted in increased alignment of investment and expenditure with business unit drivers and strategic goals, and increased confidence in the decision-making process.

### 4. Increased Trust Between the Business and the IT Organization

A fourth benefit is the increased trust between the business and the IT organization. The whole governance and portfolio management process has resulted in improved and more transparent decision making. The results of the business driver prioritization and investment contribution to the business strategy are visible for every manager and stakeholder involved. Because of this, there is greater trust between the business units and the IT organization.

Figure 8: IT Continuity Budget vs. IT Innovation Budget




### 5. Instilling an IT Value Mindset

The process of managing the change toward improved enterprise governance of IT has had its own benefits. The communication and discussions on portfolio management have improved management awareness and understanding of IT's role and supported the transformation from a cost focus toward a mindset that focuses on the business value of IT.

## LESSONS LEARNED

Based on our analysis of KLM's journey to date in instituting new enterprise governance of IT practices and procedures, we have identified the following five lessons that can be applied by business and IT executives in other enterprises.

### 1. Develop Governance Approaches to Engage Business Management

Senior management buy-in and the "tone at the top" are crucial for success. Top managers should be convinced of the need for more effective governance of IT and recognize their role in achieving this. It is crucial that they promote collaboration, teamwork, and cross-silo working. In KLM's case, appointing a CIO who had been a business unit executive and positioning the BDOs in the business units helped in this challenge. Also, clear and easy-to-communicate concepts developed by the CIO Office, such as the "Surfboard" and the "Innovation-Continuity Bicycle," were strong enablers in getting the message across and getting all stakeholders onboard. In developing the key governance principles and practices, KLM did not get mired in theoretical discussions but presented them in a pragmatic and practical way that "worked for KLM." The company also supported the principles and practices with more detailed background information and internal documentation to explain the impact and consequences of each of them.

### 2. Build a Transparent Portfolio Management Process with Clear Business Drivers

Making a clear distinction between, and defining respective roles and responsibilities for, the *what* (demand) and *how* (supply), and the Innovation and Continuity budgets was a difficult but essential step in building a transparent portfolio management process. In KLM's case, the transparency of this process, together with clarity of business drivers and the contributions of proposed investments to those drivers, "leveled the playing field," and established trust between all stakeholders. A clear and shared understanding of business drivers is critical to prioritizing investments and enabling the selection of "the right things." KLM used an innovative methodology to help clarify its business drivers and make them transparent.

### 3. Anticipate Resistance to Transparency

The transparency afforded by governance and portfolio management processes can also be an "Achilles heel." In an organization where transparency can be perceived as a possible threat, such changes will be resisted. Disputing the method, especially its objectivity and rationality, can become an unwelcome pre-occupation. Therefore, at KLM, the governance principles and practices are reconfirmed each year to retain focus. Continuous communication and transparency on the decision-making process are crucial. Also, installing mechanisms that ensure executives still feel in control helps in obtaining commitment of all parties. (At KLM, the final authority and decision power for approving investments lies with business executives.)

### 4. Provide Appropriate Change-Agent and Liaison Resources in a CIO Office

The role of the CIO Office in KLM cannot be underestimated. This 18-strong unit acts as a "guiding hand," continuously promoting and demonstrating the value of better enterprise IT governance principles and practices. This type of change-agent and liaison role requires highly skilled and experienced people who are "accepted" by both the business and IT stakeholders (many of those in the CIO Office have business and IT experience). They need to understand the real business issues, be able to help clarify the IT investment impacts, and identify potential IT-enabled innovations. KLM's CIO Office played an important role in getting the focus of IT governance discussions away from the responsibilities of the IT organization and into the area of business responsibilities.

### 5. Recognize that the Change Process is a Journey

KLM found that the key to a successful change process leading to a new enterprise governance of IT was to be pragmatic and practical by making well-defined and small steps, each with their own, sometimes small benefits. The whole change process should be regarded as evolutionary, balancing the theoretical benefits of portfolio management against current organizational capabilities and maturity. KLM is continuing to evolve and move forward on its journey—including addressing the challenges of more actively managing post-implementation benefit realization and ensuring continuous alignment between the availability and interdependencies of business and IT resources for new investments.

## CONCLUDING COMMENTS

This article describes KLM's enterprise IT governance choices that helped it move from a mindset that saw IT as a cost to seeing it in terms of business value. 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.

## APPENDIX: RESEARCH APPROACH

Our goal with this research project was to gain an in-depth understanding of how KLM adopted enterprise governance of IT principles practices over the past 10 years, as it sought more value creation from its IT-enabled investments. Due to the exploratory nature of this study, a qualitative research approach was adopted based on an in-depth case study.

In addition to data provided to the academic authors of this article by the KLM co-author, the Director, Value Management and Alliances in the CIO Office provided access to other internal information such as internal reports, presentations, minutes, etc. To further calibrate the data, we conducted and tape-recorded in-depth interviews with the VP of the 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.

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