Sessions Summary

Session 1: Digital Transformation Drivers

There are three organizational barriers to Digital Transformation being:

1) **Vision and strategy** → Not enough funding, lack of vision, …
2) **Project Delivery** → Roles and responsibilities are unclear (what should the CIO do?)
3) **Architecture** → Limitation of IT systems

3 Excellence transformations

1. Architecture is really important to achieve a transformation. We want a well-organized architecture with a layer approach. Indeed, if the IT fails there will be an impact on the business operations.
   --- Business Process---
   --- Information---------
   --- Services-------------
   --- Applications--------
   --- Infrastructure------

   There are some challenges is this area like providing real-time data to all kind of devices, using cloud-based technology and so on.

   By having a strong IT structure, some key companies could obtain nice benefits in return like Kellogg's which has built a web-based platform having the information of all clients available to their employees so they could send them personalized messages.

2. Program Management and Agility. As for the architecture, there are some challenges in this area. Indeed, making the stakeholders happy is something crucial. There are some programs like the **Waterfall** Model where everything is designed up-front with Requirements→Design→Implementation→Verification→Maintenance. There are however other methods like the **agile** one. The idea is to be able to rapidly react to a business change while limiting the risks and costs of this change in sprints of 2-3 weeks. However, agile methods are not the solution to everything and it is not an easy task to just change from a model to another one (there are example of failures).

3. Vision and Strategy. Multiple strategies can be adopted. We can do partnerships to grow, we can buy other businesses, we can launch new products our self but this depends on the vision and the strategy we choose.

IT governance is the responsibility of the board of directors and executive management. It is an integral part of enterprise governance and consists of the leadership and organizational structures and processes that ensure that the organization's IT sustains and extends the organization's strategies and objectives.

Introduction to COBIT: From Management questions → Enterprise Goals → IT Goals → IT Processes

Session 2: Enterprise Architecture

The idea in the architecture of a business is to:

- **decompose** a complex problem to its invariant elements and rules
- assign **jurisdictions** and responsibilities (roles)
- establish **coordination** and change management mechanisms

A lot of the IT budget only goes to **maintenance** meaning that only a few of the budget goes to innovation. This percentage increases over the time.

What we would want from the beginning is:

1. A well-defined strategy priority described by senior staff
2. Project teams working to identify and implement the business changes and the required IT support
3. Obtain the resulting IT that has been defined

The problem is that the time we arrive to (3), the strategy has changed and since the enterprise is not flexible enough it was useless because there was no long-time decision making. In fact, when the well-defined strategy described by senior staff has been taken, they also already have to think about what has to be standardized and integrated in the enterprise architecture.

To support our strategy, we have to answer 2 questions:

1. What are the core activities in your organization
    a. What activities do you want to perform repeatability, flawlessly, and efficiently?
    b. What activities did you perform yesterday, and will you perform today and tomorrow?
2. How standardized and integrated do they need to be?

Indeed, there is often problems in the three layers being the platform, the application and the data. In the first layer (platform), there is a lack of standardization while in the second layer, there is a lack of integration and in the last one redundancy in the data.

There are different strategies about mixing standardization and integration. One is for example the Marriot hotel being standardize without integration because their business unit processes are well defined but each business unit targets one group of customer (poor, wealthy, rich). There are other examples in the course about standardization/integration.

There are some good and bad side about standardization and integration.

The role of CIO is changing, they have to be able to be present in every step of the architecture.

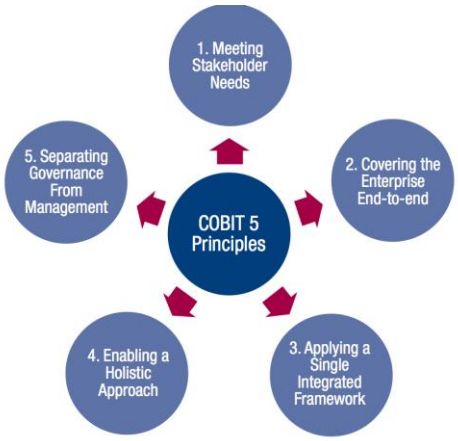
Business Silos	Standardized Technology	Optimized Core	Business Modularity
• Collection of separate departments/units rather than integrated enterprise • Separate choices made for each product, function, and segment • Investments based on project ROI	• Centralized standardization of technology platforms with exception management • Business process and IT application decisions made locally • Investments based on cost reduction	• Standardization/ integration of processes and data • Separation of decisions about processes, applications, data, and infrastructure • Business case made on performance	• Information and process interface standards defined • Business process ownership defined • Business case made on time to market, flexibility

Session 3 : COBIT

Definition

COBIT 5 helps enterprises create optimal value from IT by maintaining a balance between realizing benefits and optimizing risk levels and resource use. It also enables information and related technology to be governed and managed in a holistic manner for the entire enterprise, taking in the full end-to-end business and functional areas of responsibility, considering the IT-related interests of internal and external stakeholders.

Here are the 5 principles we will analyze one-by-one in COBIT.



1) Meeting Stakeholder Needs

An enterprise exists to create value for their stakeholders by doing benefits and optimizing the risk and resource to create value. Governance is about negotiating and deciding amongst the different stockholders what their interest is because it is sometimes not the same if they are many of them.

2) Covering the Enterprise End-to-End

The aim of COBIT is to address all relevant internal and external IT services and processes where the information is processed as well as internal and external business processes.

3) Applying a Single Integrated Framework

Multiple techniques can be used like Prince2, ITIL in the whole COBIT process.

4) Enabling a Holistic Approach (the Enablers)

Everything is interconnected from processes to information and culture, ethics, people and stuff. To be fully effective we need the input of the other enablers.

5) Separating Governance from Management

Governance is about evaluate, put the right direction and monitor the business. Management is about planning, building, running and a bit monitoring the activities being in alignment to achieve the enterprise activities.

In this course there is a quick True/False quiz of 5 questions being:

1. Governance is about negotiating and deciding amongst different stakeholders' value interests → for me it's true

2. Creating value for a stakeholder means delivering benefits at the lowest cost possible → for me it's False since we have to take into account the risk optimization as well

3. Management sets the direction for the Company → False governance does that, management plans, builds and runs.

4. Once a Company uses COBIT, it should not use ITIL or PII anymore → No they can overlap

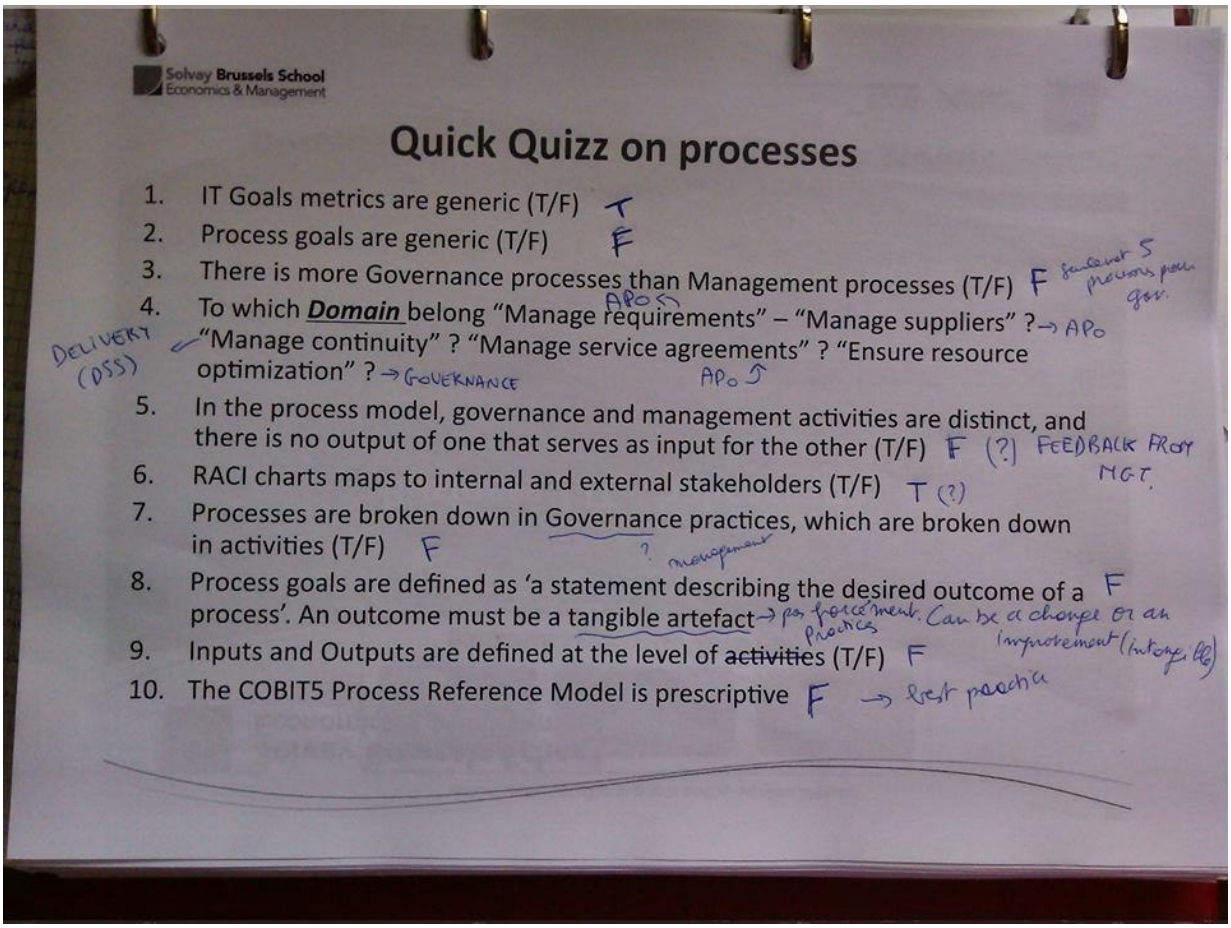
5. The enablers are a set of independent topics → No every enabler must be interconnected

COBIT Processes

There are multiple layers in CORBIT. The bottom one is about delivering and supporting. The one above is about building, acquiring and implementing and the top layer is about aligning, planning an organizing. During this whole process, monitoring and evaluating the assets is required at each stage (=management). At the end of this whole process, we also have to evaluate, direct and monitor what we have done (=governance).

For every steps, pages in the COBIT framework describes what have to be done by describing IT-related goals and their related metrics to look if we have achieved what was required. It also described each person that should be involved at which step of the project (board, chief officer and so on).

There is also another quiz.



Business / IT Goal Cascade

Creating value for the stakeholders is influenced by some factors like their environment, technological evolution and so on. This value creation then cascades to meet the enterprise goals that cascades itself to meet IT-related goals that cascades to enabler goals.

In the enterprise goals, COBIT also defines a Balanced Scorecard (BSC) for every dimension (financial, customer, internal, internal growth) with certain goals and if they meet their relation with the principle of governance being benefits realization, risk and resource optimization. It then goes the same for the IT-related goals and COBIT then maps the enterprise goals with the IT-related goals in a matrix style mapping.

An example will be given to understand how this shit works. An enterprise has defined a number of strategic goals where improving the customers satisfaction will be the most important one. Thanks to this well-defined goal we can know where there is need for IT improvement. Indeed, since customer is the key priority, when can look at the corresponding enterprise goals in COBIT which have to be raised being:

- Customer-oriented service culture
- Business service continuity and availability
- Agile responses to a changing business environment

With the cascade model, when those enterprise goals are defined we have to cascade to the IT-related goals which correspond to those enterprise goals. Since we have a linking matrix between enterprise and IT-related goals, we can look at where a P in a cell is because a P means that the IT-related goal is noted as most important. The enterprise then looks at all P in the right cells and decide to retain X/Y goals as a matter of priority. This is not the end since after the IT-related goals there was another cascade to the enablers. One example of enabler is the IT process. We can again do the same step to map the IT-related goal defined previously with each enabler and in this case as example, with the corresponding IT process.

The main benefits of COBIT is thus to allow the definition and priorities for the implementation, improvement and assurance of the enterprise's objectives and related risk. The goals will cascade as previously said from defining relevant and tangible goals for every level of responsibility to filtering and extracting the relevant guidance thanks to the mapping lattices to clearly identify and communicate how enablers (people, process, ethics, information, communication and so on) are important to achieve to enterprise goals.

Session 4: Système d'Information Transeuropéen

Les slides étant en français je ne vais pas me casser la tête.

Le but des SI-T€ est de partager des informations entre des états membres, la commission et même d'autres intervenants comme des entreprises ou des pays tiers. Le problème est qu'il y a beaucoup d'intervenants dans ces projets (jusqu'à 3 millions d'entreprises, 28 états membres, des institutions € et des pays tiers). Les entreprises viennent du fait que chaque état intervenant s'interface avec beaucoup d'entre elles. En effet, chaque intervenant à ses propres fournisseurs, architecture, normes et cela devient difficile à gérer → C'est **impossible d'harmoniser tout le système.** Il faut savoir qu'il y a beaucoup de problèmes (langue, organisations diverses, …).

Au début, la décision politique doit venir des institutions comme la commission ou le parlement €. Une fois la stratégie avec tout le côté légal mis en place et un comité de gestion de projet on peut commencer à spécifier le projet. Tout cela peut prendre très longtemps pour que le côté légal soit fait.

En général, on est libre de faire ce que l'on veut chez soi mais ce n'est plus le cas où la liberté de son voisin commence.

Les clés du succès sont organisation + gestion de projet + facteur humain et pas comme on pourrait le croire le facteur technologique vu qu'au final chacun fait ce qu'il veut tant qu'il reste dans son domaine.

Pour l'interopérabilité des systèmes, chacun de nouveau fait ce qu'il veut comme test d'application mais il y'a des tests de conformité aux interfaces du Domaine Commun pour que le système puisse opérer de manière fonctionnelle.

Bref, un bon cours de merde qui ne sert à rien à part dire que le facteur humain est important.

Session 5: Information Security Management

CIA (you all know what this is fucktards) is the 3 pillars of security we would want to achieve. The idea is that information and systems must be categorized on the basis of their security needs. You don't always need high level of confidentiality but then you have to adapt the needs.

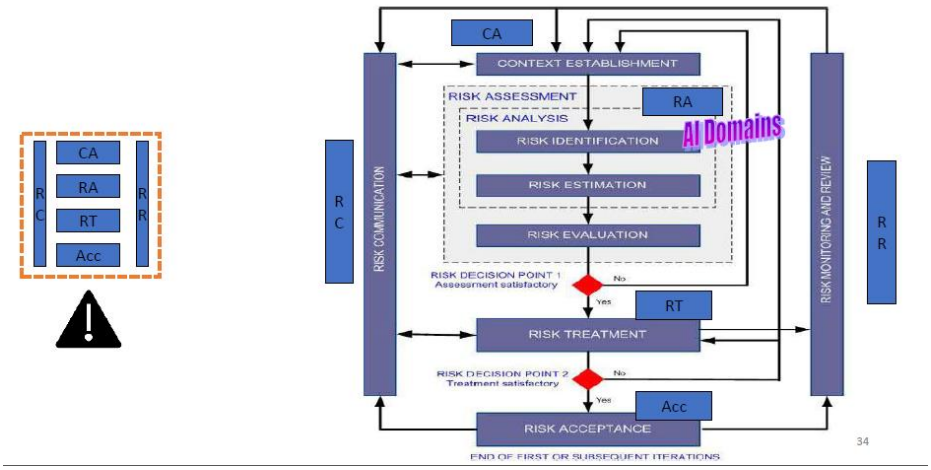
To have a secure framework continuous improvement is required. The steps are as always to plan, implement, monitor and improve the security plans. Indeed, there are many kind of threats which we have to counter such as attacks coming from intelligence agencies, criminal groups, activists and so on. Each group targets something different that will have an impact on our business.

There is something called **IS Vision** which is the business vision its threats. You thus have to define an IS strategy and setups to counter those threats. This can be done by defining policies, creating committees and planning resources for a projects. The setup can be done by defining the mechanism used for security as Security by Design, Security by Default and so on.

We need to be ready for the possible threats. This means having legal teams, risk management, cybersecurity experts and so on. Each person must have a well specific task. For example, the security leader must lead, implement and manage the security program.

Risks can be defined as Threats x Vulnerabilities (R=T x V). A threat is for example a terrorist exploiting a vulnerability being in software bugs → Loss of privacy, damage to reputation (= Risks).

<!>Likely to be an exam question <!> Information risk management steps.



The idea is that we first have to establish the context (CA) for a risk to happen. When the do risk assessment (RA) by identifying the risk, estimating the cost and evaluating it. If there is no potential risk we start over with other risks. If it is the case we have to propose a solution to treat it (RT). If the treatment is satisfactory we start over otherwise we accept it (RA). We always communicate (RC) and monitor the risks all along the procedure (RR).

When there is an incident, we have to be prepared then to detect it and then to respond to the incident. The main priority is to identify the resources which need to be protected. We determine the most important ones and assign business priorities for recovery and we document the system and we keep that up to date. This is likely also to be an exam question.

The size of our enterprise will determine if more roles in incident management is required. A large organization could for example have a crisis management team.

Session 6: IT Sourcing

Outsourcing is an option of IT sourcing (as is In-sourcing).

IT sourcing is about managing all the IT of a company like 500 subcontractors where 200 are in different location and others are internal contractors + transferring knowledge to others.

We need to follow the strategy of the main company (follow BNP Paribas tech if BNP Belgium) for long-term purpose.

Dimensions and Definitions

1. Delivery
    - Time and External contractor: we cannot give orders, we cannot blame them and cannot evaluate them. They are paid per day with obligation of presence. They scope with the peak periods.
    - Fixed Price Delivery: If it's not done for a particular well fixed day there will be penalties. Otherwise we have the certitude of the product at fixed price.
    - Managed Service: Pay for a service like maintenance (yearly fee)
    - Internal Employees: Core knowledge
2. Geographical

- Near Shore: Outsource to countries or location near us (Lille, …) but not to India. We outsource where the price tag is a bit lower than in our country.
- Onsite - Offshore: We tell what we want and translation is made between the guys and the offshore contractors

3. Relation : balek pas exam mais: different kind of relation are possible (joint ventures, …)

Define Sourcing Strategy >< Define Vendor Strategy

Vendors often have their own interest (vendors for example prefer to sell product X but our strategy is to buy product Y) but we really want our sourcing as we define it. That's why it's better to define the two and then maybe go for a joint venture or something like that.

Political-**E**conomical-**S**ocial-**T**echnological=PEST model. We have to think about those 4 elements before outsourcing something. The technological model is not the technology to use but it's more about: someone has never been fired by recruiting IBM because they basically can do anything meaning the risk about technology is really low with them.

GDPR read about this seems important. You need to know where your data is!

<!>Likely to be an exam question <!> When defining the contract wat has to be defined.
There are the "main" points in the contract, but there are also a lot of appendix in each of those main contracts. You don't only put the legal specification but you have to define what services and which level of service you expect. IT is for example availability, data center is percentage of humidity → everything like those small things have to be defined from the beginning so a good relation can be obtained afterwards (What is a clean window? It has to be said since day 1 because the notion of "clean" is not the same for everyone). It's not only about legal but it's also important as IT managers to understand that there are important things in the contract to run our business.

Sequence Consideration. When we have to make a change, transformation will be needed. We can either choose to make the transformation before or after the transition. This will have an economical impact that cannot be neglected. There is the Ship&Fix method that do the transition before the transformation, the Ship while you fix method that does everything at the same time and the

Fix&Ship method that first do the transformation to do the transition afterwards. The best model is the last one (Fix&ship) then ship&fix then the last one is the most undesired.