Business Process Management
Design and Re-engineering

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Download the slides from

http://jarrar-courses.blogspot.com/2015/01/dataandbusinessprocessmodelling.html

Some content in this lecture are based on [2]

Reading and practice

[1] Every material in these slides.

[2] What Lucy Taught Us: The Model Chapter

[3] Practice Session

Keywords: Data Engineering, Data Modeling, Conceptual Data Modeling, ORM, Object Role Modeling, Information Modeling, Schema engineering, Business Rules, integrity constraints, Derivation rules, Logic, verbalization of business rules, rules contradictions, rules implications, Business Process Engineering, Business Process Management, Business Process Modelling, Process Mapping, Process identification, process re-engineering, process re-engineering, Process Optimization, Process execution.
هندسة البيانات، مخطط بيانات الهيمنة الهرمية، نمذجة الهيمنة الهرمية للبيانات، هندسة العمليات، إعادة هندسة العمليات الإدارية

Walter Geer: The Model

Business processes drive the basis of any organizations' products and services. It can be seen as the way things get done.

In theory, process design ensure the consistency of delivery.

More commonly, the individuals involved must interpret, define and follow the processes.

Inconsistencies, confusion, delays, miscues

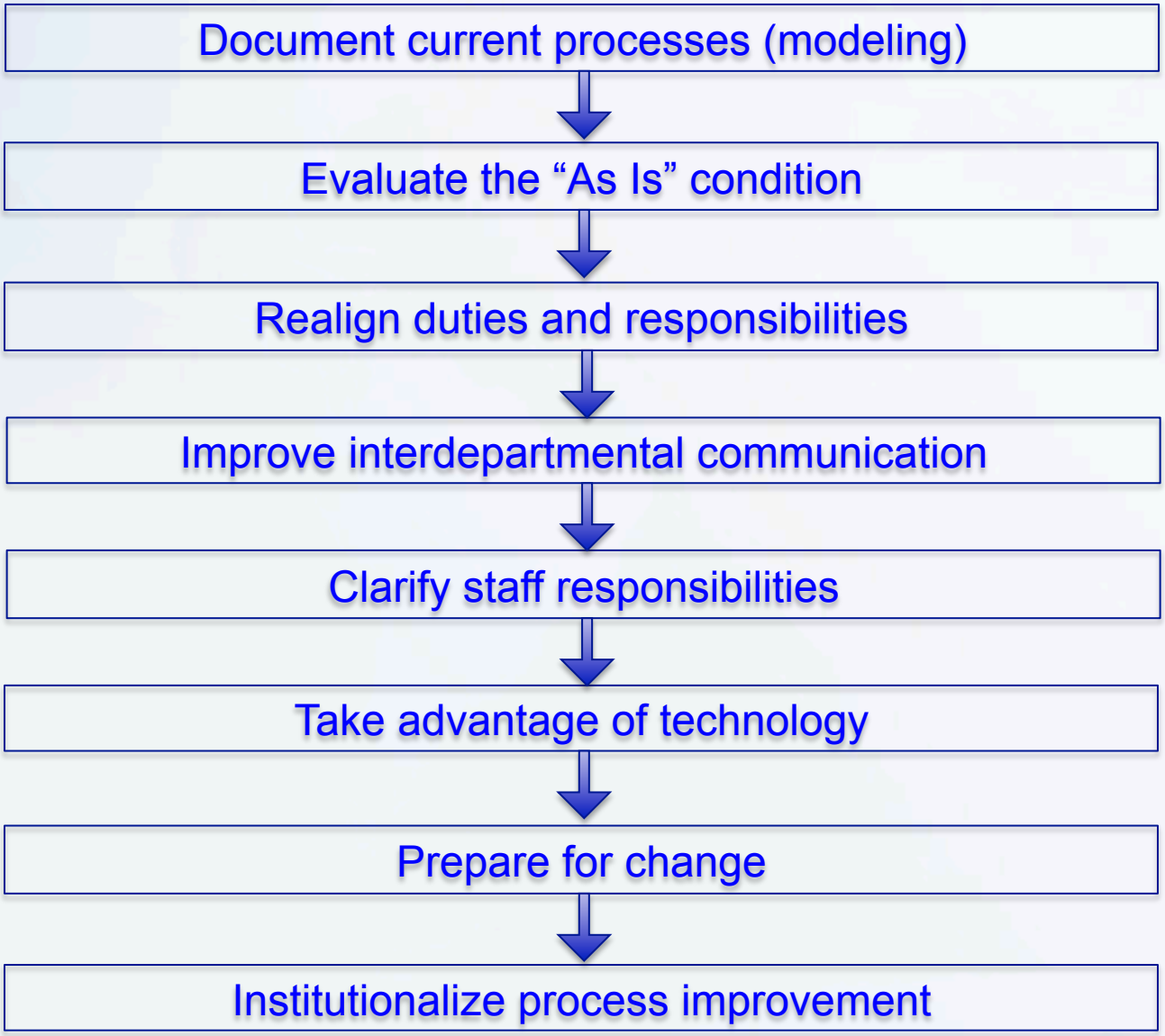
Walter Geer: The Model

Evidence: Individuals are unable to produce a meaningful documentation to describer the actual workflow within and between organizations' departments.

To effectively use the model, begin with a vision to identify the process goal.

Goal typically includes descriptive verbs such as: improve, increase. reduce, or eliminate

Walter Geer: The Eight Steps Model



Business Process Management Lifecycle

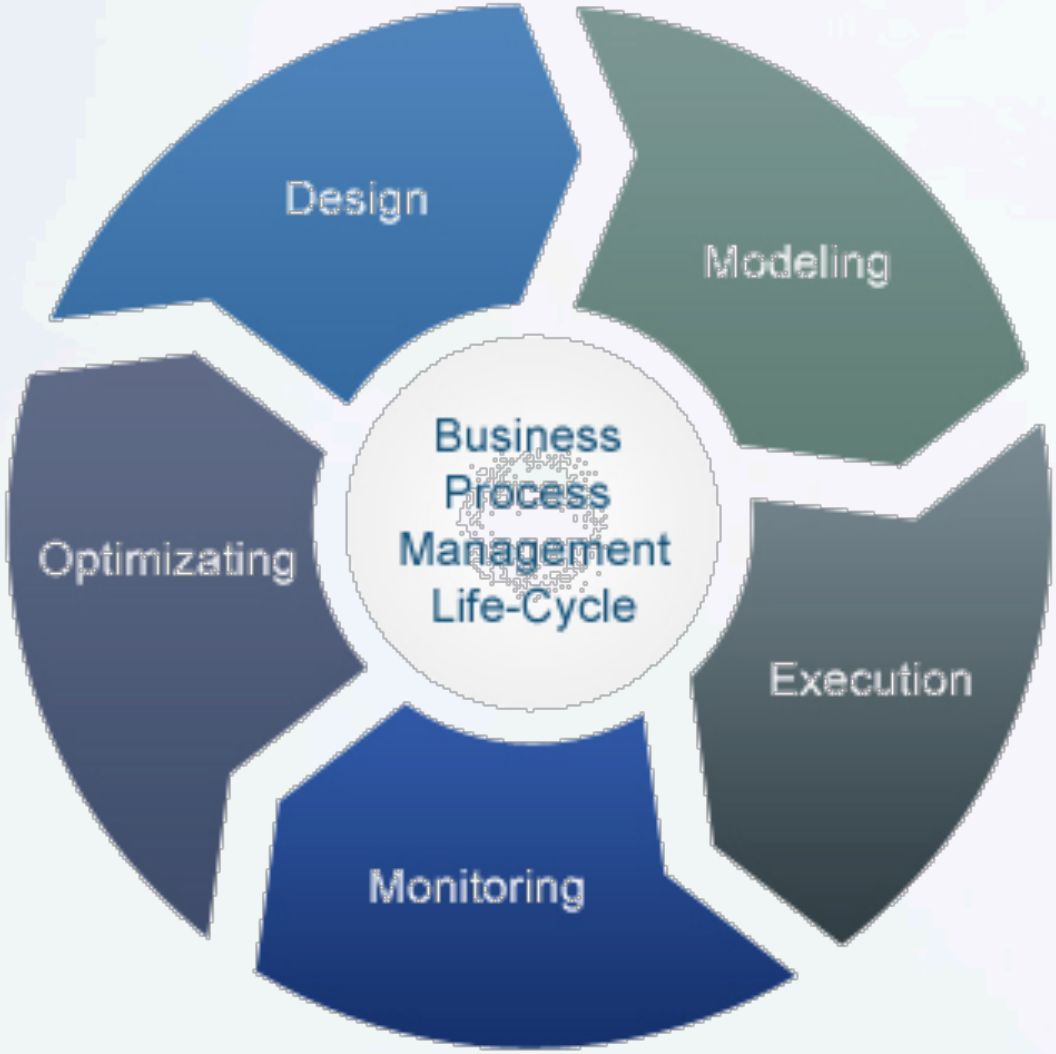


Image Source: https://teaminformatics.files.wordpress.com/2013/03/bpm-diagram-1.jpg

Challenges: Process Design and Re-engineering

We will present you a clear methodology that can be followed step by step to improve a business process!

But we will present and discuss some factors to be taken into account.

This will help to improve you re-engineering skills

- Main challenges to accomplish to improve business process design, would be (but not limited to):
  - Process domain
  - Process engagement
  - Process interpretation
  - Process monitoring and improvement

Domain knowledge is Important

Understand the business process domain is important but is not an easy task. Domain can be for instance:

- Banking
- Healthcare
- Telecommunication
- Public administrations
- Insurance

More likely, there are usually domains within a single domain itself.

- Banking (i.e., finance, accounting, loans)
- Healthcare (i.e., hospital, clinic, doctor, patient)
- Telecom (i.e., billing, infrastructure, OSS, BSS)
- Public administrations (i.e., health, education, several citizen services)
- Insurance (i.e., ship, car, house, life)

Understanding Process Owners

- There are different levels of process owners within/across departments
- When process span across organizations, it become even more challenging
- Owners can vary in any BPM activity depending on the complexity of certain process, such as
  - Board of directors
  - Domain experts
  - Business owners
  - Managers
  - Lawyers
  - Customers

…and many more!

Process Engagement

- One important thing to keep in mind while designing and re-engineering a business process is to determine the people and/or systems involved in process execution.
- This activity should be during the design and model phases of BPM lifecycle.
- Example, potential roles engaged to course enrollment process at Birzeit University are: Student, Instructor, Advisor, Academic Department, Registration, Finance, Dean, Ritaj, Banks.

Process Interpretation

- People who execute the process, usually tell their own interpretation of how the process should be done.

- But in reality, there are several concerns:
  - **Interpretation** usually different from one person to another, department to another, organization to another,
  - **Execution** might be different from the way it should be.

- **You should be smart enough, and should pay attention to process model accuracy.**

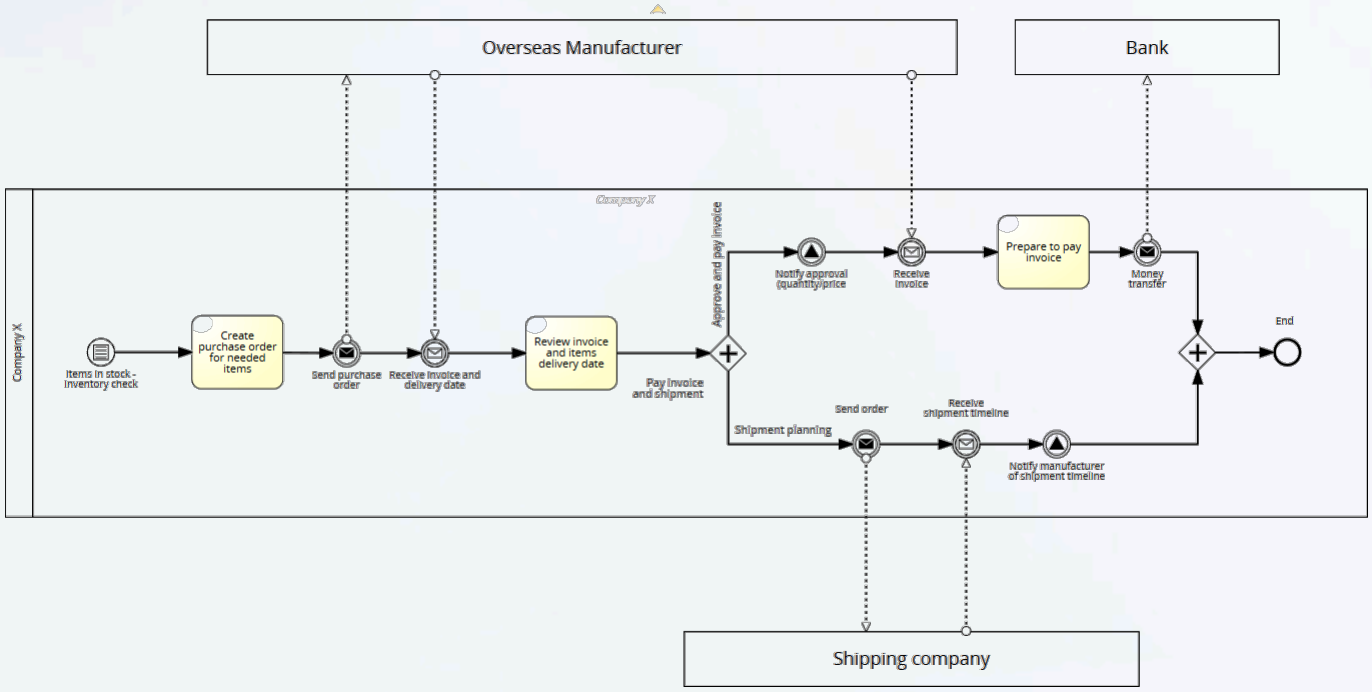
Process Improvement

- After design and modeling, comes to the phase of improvement.
- process improvement vary from domain to another, even within same domain.
- No specific methodology to follow for this phase, and it depends on the level of process complexity.
- Improvement can be iterative- through phases.
- Some recommendations for process improvement:
  1. Gather process metrics
  2. Define what to improve and which goals
  3. Find out ways to achieve the improvement goal(s)
  4. Monitor process execution
  5. Understand the limits to organizational changes allowed.

Use Case: Goods Import

Example is available in Signavio in the shared folder "Examples - analytic elements"

Model name: Goods Import, Bilal - version 1



Tips: Naming Convention

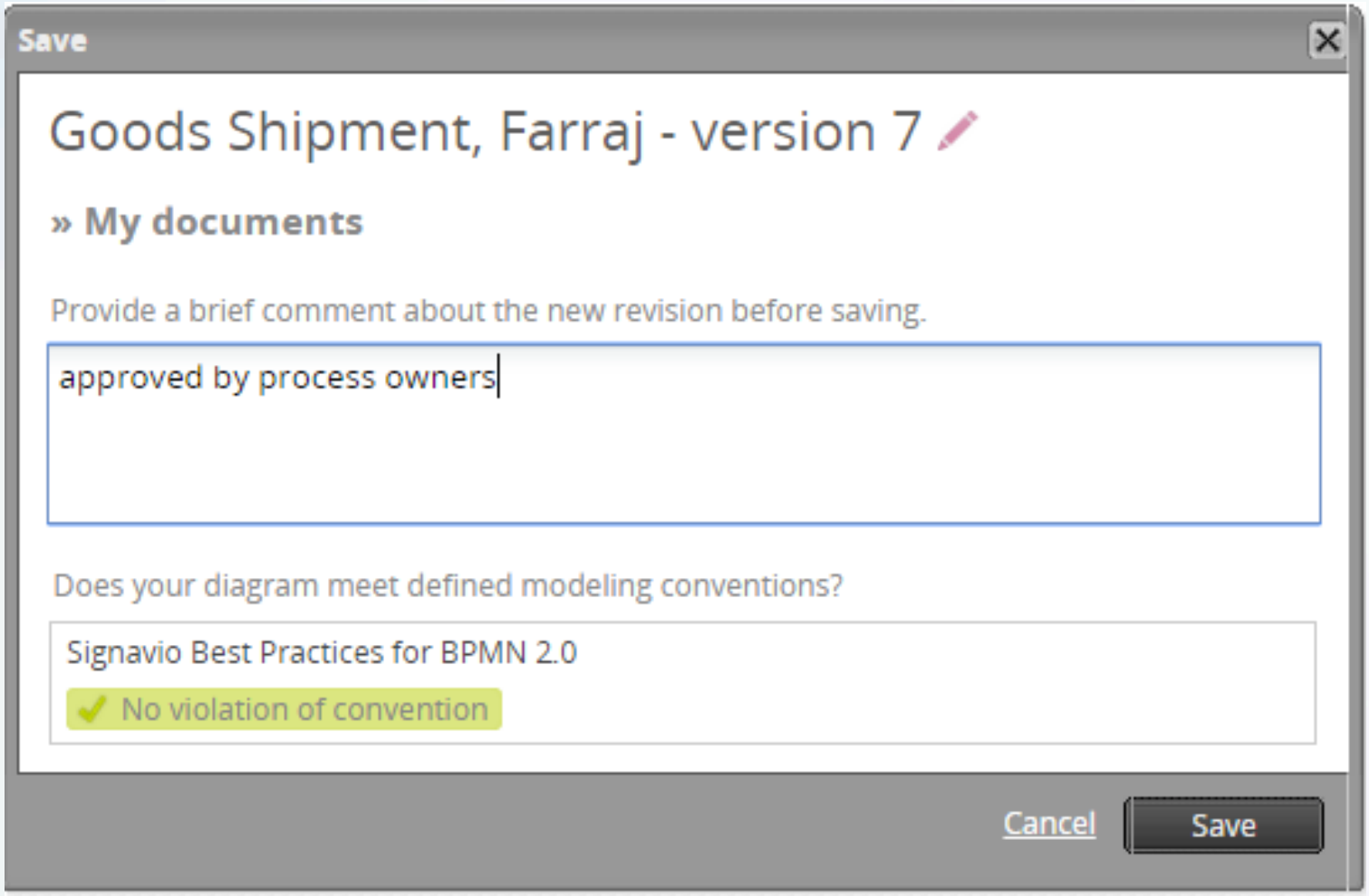
- Naming Processes is sub processes is important.
- Try to define and agree on the naming convention, between all people who collaborate on your project.
- For example: lets agree on the following structure for all models created for a BPM activity. What in brackets is replaceable.

  {Brief_Name_of_Process}, {Editors} – version {#}

  Example: Goods Shipment, Bilal - version 7

Tips: Model Revision

Good to provide brief description of changes to business process models when applying changes to model.



Project II: Faculty Traveling Permission

Description: Faculty member who want to travel during semesters are required to have a permission. Faculty member need to fill in a form and get it signed by the department chair and the dean of the faculty. The form includes (a) some information about the trip, destination, dates, and purpose; and (b) a plan on how they will make up the the missed lectures. The form is then sent to the department chair to decide whether this plan is acceptable, and send it to the dean who then decides to give the permission or not. The dean may take the recommendations of the dept. chair into account; and can refuse if the faculty member succeeded the allowed number of absence days (9 teaching days per semester). After acceptance/ rejection of the form, the faculty member and the chair are notified, and a copy of the decision is also sent to VP-academic.

As this process takes lots of time and efforts from faculty member and involved departments. The university would like to automate the process, so that faculty members can request it easily through Ritaj.

Task: Model the above business process using BPMN 2.0 on Signavio, and deliver hard copy before, May 5th 2015 at 9AM, Please also save a soft copy on the shared folder “Faculty Traveling Permission”.

Project: Faculty Traveling Permission

جامعة بيرزيت
BIRZEIT UNIVERSITY

طلب إذن للتغيب عن العمل خلال الفصل بدون دعم مالي لغرض حضور نشاط علمي (مؤتمر/ندوة/ورشة عمل،...)

• لمقدم الطلب:

1. الاسم: محمود حمدان — الرقم الوظيفي: 9999
2. الكلية: الهندسة والتكنولوجيا — الدائرة: علم حاسوب
3. طبيعة النشاط: اجتماع لمشروع "NoorNet"
4. منظمو النشاط: الاتحاد الاوروبي — مكان الانعقاد: برشلونا، اسبانيا
5. فترة الانعقاد: من تاريخ: 2015/11/20 — إلى تاريخ: 2015/11/21
6. مجموع الفترة المطلوب غيابها عن الجامعة: 2 — من: 2015/11/20 إلى: 2015/11/21
7. مجموع أيام العمل خلال فترة الغياب: 1 يوم تدريس (محاضرة 1:30 رياضيات منفصلة ومحاضرة 1:30 قواعد بيانات)
8. طبيعة المشاركة: حضور اجتماع وفعاليات مشروع
9. عنوان المشاركة: مشاركة في اجتماع وفعاليات مشروع
10. هل سبق وأن حصلت على إذن للتغيب عن العمل خلال هذه السنة؟ □ لا ☒ نعم (فصل مع تواريخ ومدد)

تقدمت بطلبين للسفر الى القاهرة ليوم واحد لحضور اجتماع لنفس المشروع، والى صنعاء ليوم واحد لمشاركة علمية في مؤتمر.

المساقات التي تدرسها خلال الفصل الحالي: الرياضيات المنفصلة، قواعد البيانات

11. الرجاء إرفاق معلومات مفصلة عن كيفية التعويض عن التدريس وأية أعمال أخرى تستلزم التعويض خلال فترة الغياب:

سيتم التعويض يوم الاحد الموافق 2015/10/19

12. الرجاء ارفاق معلومات خطية عن النشاط (مثلاً منشور، رسالة دعوة، البحث المقدم، الخ...)
13. النشرات العلمية منذ الدعم السابق □ لا يوجد □ يوجد العدد: (إن وجد يرجى طباعة الملخص من قاعدة بيانات أبحاث الجامعة وإرفاق القائمة على ورقة مستقلة إن لزم): (الرحلة ستغطى من مشروع "NoorNet")

الاسم: _____ التوقيع: _____ التاريخ _____

• لرئيس الدائرة:

1. هل توصي بدعم هذا الطلب: □ لا □ نعم ، ملاحظات: _____
2. في حالة التوصية الايجابية، الرجاء إبداء الرأي في المعلومات المرفقة من قبل المدرس عن كيفية التعويض

_____

الاسم: _____ التوقيع: _____ التاريخ _____

• قرار العميد

مع الموافقة □ نعم □ لا ، ملاحظات: _____

الاسم: _____ التوقيع: _____ التاريخ _____