SOFTWARE FOR DOMAIN EXPERTS

Developing domain expert applications Experiences from EYDAP (and not only)

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SFDE for a niche market

Domain expert: A person with special knowledge or skills in a particular area (different than s/w development)

Software expert: A technical expert or a Business – IT Liaison

Low Code Dev: Developing applications with minimal coding requirement

Domain Expert	→	A Niche Market Product	←	Low Code Dev
S/W Expert				

SFDE concept can be applied to:
- ✓ External customers
- ✓ Internal customers

Why Software for Domain Experts

Empathetic Software	S/W that works the way the user thinks Monolithic and ERP systems are not user friendly A quality supplement
Bridge the gap between Business and IT	Specific business operations are not covered by the ERP Need for specific applications
Business Differentiation	Software Differentiation
Competitive advantage	Functionality serving specific services or capabilities
Process/Business Agility	Need for rapid response to market change Monolithic and ERP systems are not change-friendly

Aspects and Issues

- Well defined problems already have well designed products (Accounting, Payroll)

- A lot of problems are not well defined

- Sometimes they do not have an optimal solution (wicked problems)

- Preferable solution depends on manager's (our customer) perspective

- Massive software products hardly support a range of perspectives and cannot behave well in wicked problems (*that's why we propose SFDE*)

- SFDE usually targets wicked problems

- Eliciting user requirements – especially in wicked problems – is not a trivial issue

- A common fault: customers describe solutions rather than problems or needs

- A SFDE solution, even a small application, may change processes.

- In this case the critical factor for the success or failure of the project may be the management of change rather than the technology

Aspects and Issues

- The "Domain Expert" is supposed to be aware of the processes but it's not always the case

- A SFDE solution is a kind of System Intervention

- These Systems are "**Complex**" **Sociotechnical Systems**

- In a **Complex System** fixing one **part** without having in mind the **whole** may create adverse effects in other parts of the whole (organization)

- Intervention in a complex system requires a **Holistic Approach**

Aspects and Issues

Not always welcome

- Not part of the main IT management system

- Problem fixing not embodied in the organization

- They start fixing a specific need but soon they become vital for the organization

- Big systems (and related people) claim a dominant role

- Issues in maintenance

- They may create an information island or a hidden part in a process not supervised by the central IT management of the organization

Complexity Navigation

- **Business Process Modeling**

  o The process who is affected

  o Relations with other processes

  o Embody SFDE application into the organization's process model
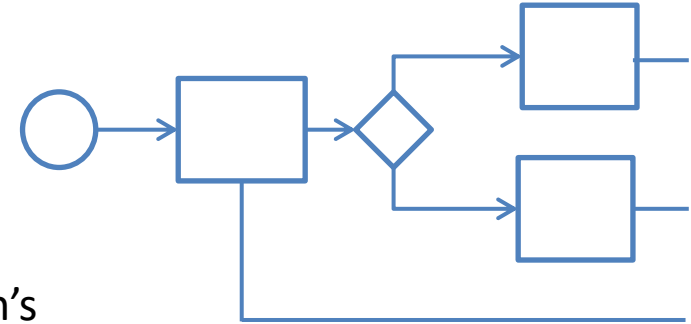
- **Systems Approach — Holistic Approach**

  o Do not restrict observation in space and time

  o System – subsystem consideration

  o System's purpose within a broader system

 o Multiple perspectives
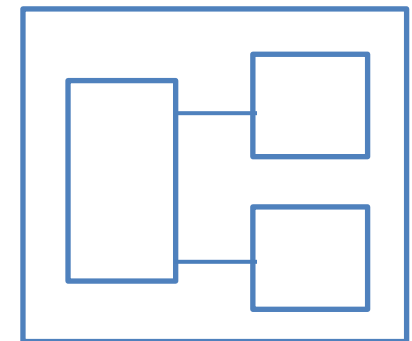
Experiences from EYDAP

Domain Expertise	Product
Water and wastewater network management	• Monitoring and Remote Controlling applications (SCADA) • Operations management
Customer Billing & Care	• Billing & Customer Care System • Call Center application
Specific accounting needs	• Custom applets within the ERP system
Recruitment process via ASEP	• Recruitment data processing system
Corporate Education	• EDUCATION custom application
Internal communication	• Web portal for internal use

EYDAP: ERP vs Custom Applications

ERP

Non ERP applications

- Accounting

- Payroll

- Procurement

- HR Management

Telemetry

Call Center

Operations Mgt

SCADA

Customers Care & Billing
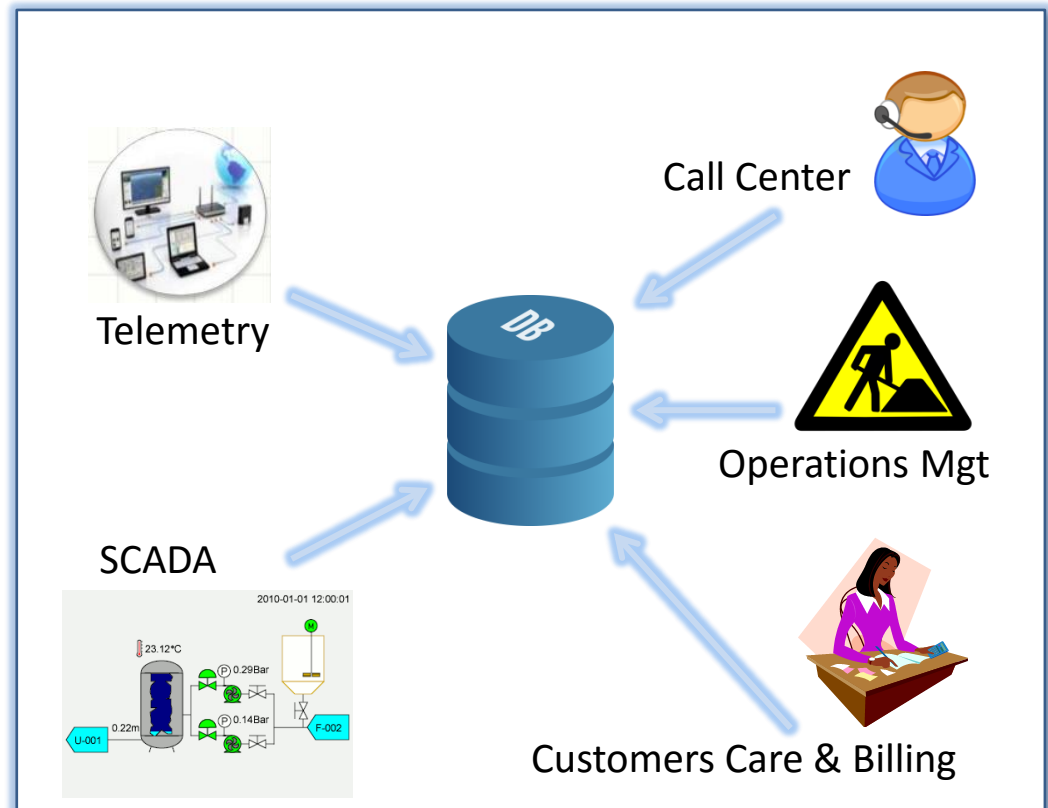
SFDE: Other Cases

Orders and deliverables management in a meat industry

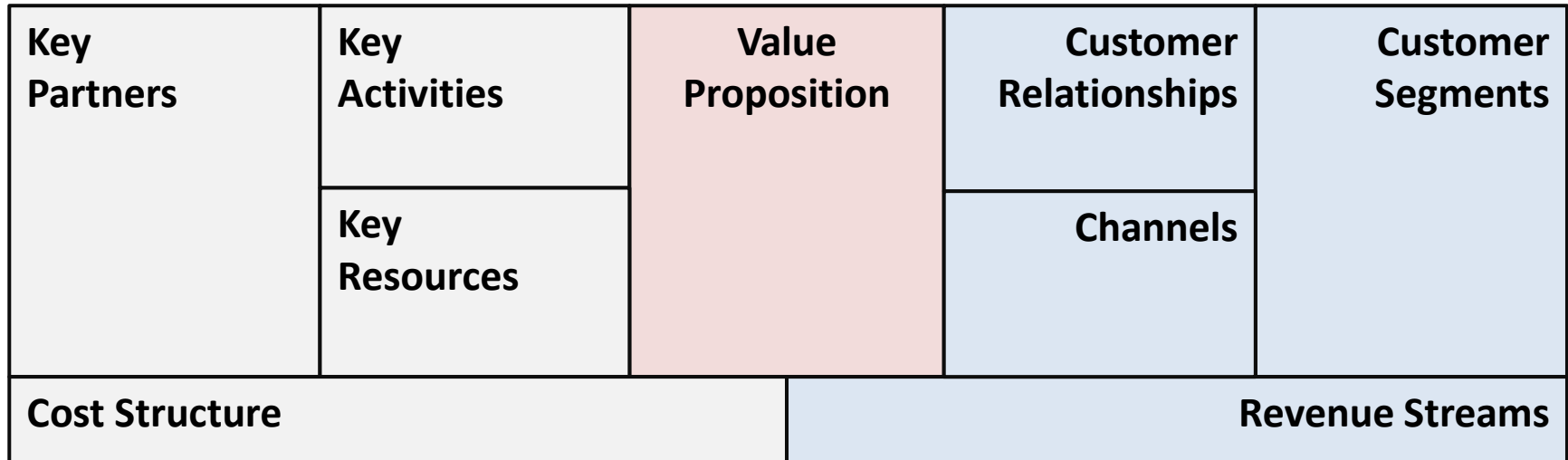Orders management in a Commercial Agent Office

Ticketing System (issue tracking) in a Technical Support Company

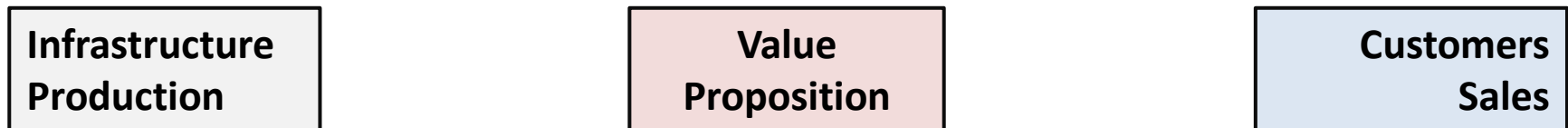Import and Distribution of promotional material

Stock market analysis for a small group of investors

Business Model Canvas

SFDE as a business

Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
	Key Resources		**Channels**	
Cost Structure			**Revenue Streams**	

Business Model Canvas: nine business model building blocks, Osterwalder, Pigneur & al. 2010

Infrastructure Production	Value Proposition	Customers Sales

Thank You

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