Operations architecture modeling for IT-driven organizational development of a construction company



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## **Context, company description**



- Medium-sized Russian construction company (BuildIt\*);
- BuildIt design and construct **non-residential buildings** (industrial facilities, schools, theatres, museums, libraries, etc.). Many unique facilities;
- **5 large-scale projects with total budget of \$200 million** at the moment of our collaboration. Government contracts mostly;
- Projects are comprehensive and complicated: they involve different subsystems of a facility under construction (heat supply, electric power supply, water supply, IT infrastructure, etc.).
- Implementation of up-to-date technologies in buildings infrastructure including provision of contemporary IT infrastructure.
- **1000 employees,** payroll budget amounts for \$1.5 million/month (excluding construction workers subcontracts);
- The company has been developing and has grown a lot in recent years, but the company has remained a "manually managed company" with one and the same owner and director.

\* fictitious name for confidentiality purposes. The project took place in 2012, but many raised issues are still relevant for companies in the region.

## **Context, problem description (1/2)**



- Project schedules are often violated due to ill planning and weak control over the situation.
- The company's director is incapable of controlling everything and struggles for automation viewing it as a way out.
- Management cycle is linked to weekly management meetings on various issues; tasks are set within such meetings and controlled within later meetings.
- Formalized processes are almost absent.
- Task and document management automation is the first intuitive request of the BuildIt management.
- The company has no formal or shared informal strategy.

## **Context, problem description (2/2)**



- Until recently IT didn't develop in the company. There is only a department of system administrators, which provides maintenance and support for equipment and several systems (CAD systems and some ERP modules);
- Recently, BuildIt started to pay increased attention to IT as a means of performance improvement;
- The company invited consultants on ERP systems implementation, but they did not manage to persuade the managers;
- Finally, BuildIt director invited new consultants the authors of the paper with the team. He expected to receive a less ERP-biased approach with more solid foundations.

## Goal and objectives of our project



The final goal of the project was to implement IT in order to make the management and control system in the organization more effective.

In order to achieve this goal, it was necessary to answer the following questions:

- What should be the directions for IT development in the company?
- What should be the target state of IT support?
- How to attain the target state?

In addition to these conceptual questions, which are associated with IT strategy, it was necessary to specify requirements for the most urgent information system (IS).

## Approach, key elements



- 1. Componentized architecture of business operations and heat maps were used for analysis and planning;
- 2. Enterprise modeling tool was used to systematize and integrate work results;
- 3. Special attention to "soft" issues (organizational culture and management style).

# 1. Componentized architecture of business operations: theory and methods



	Competence 1	Competence 2	Competence	e 3	Competence 4		Competence N
Vision and strategy	Component X						
Learning and Innovation			PT	10493 (	A1106 012) June 24, 2011		
Oversight and Administration			Component Y	her	IBM Re Industry Ope Business Pro	esearch Re rations Archite ocess Model Col	e <b>port</b> cture for llections
Production and Maintenance				Jorge	L. C. Sanz, Ying Leu Susanne Glissmann IBM Almac 6 San Jo	ng, Ignacio Terrizz , Joseph Kramer, C Research Division den Research Center 50 Harry Road ose, CA 95120-6099 USA	zano, Valeria Becker, Guang-Jie Ren

### **1. Componentized architecture of business operations: theory and methods**



EALab

#### 1. Heat maps: theory and methods





Analogy: As an owner of a house you might want to know where to invest in thermal protection. You might use a so called thermography to find out where your insulation is already sufficient and where it pays to invest in improvements. Wolfgang W. Keller, HPI

Heat Maps are like Thermography for your Enterprise



Operations

#### 2. ORG-Master - a specialized modeling tool was used to systematize and integrate work results





The evaluation of BuildIt culture using Cameron and Quinn [2006] method

# Main steps and deliverables of the suggested approach





Data collection methods we used at Buildlt



- Interviews with top managers and relevant specialists of the company;
- Surveys several online questionnaires were rolled out;
- Observation / ethnography (e.g. participation in weekly management meetings, etc);
- Analysis of documents (regulatory documents, etc.) and BuildIt website.

#### **Application of the approach: Componentized operations architecture**

	1. Marketing and Sales	2. Design and engineering	3. Construction and installation work (CIW)	4. Material procurement and subcontracting	5. Logistics	9. Finance	8. End-to-end order management	10. General administration and support
/ision & trategy	1.1.1	2.1.1 N	3.1.1 Janagement of functional strategie	6.1.1 es (design, performance r	7.1.1 nonitoring)	9.1.1	8.1.1 Development and monitoring of the business strategy	10.1.1 Formation of corporate strategy 10.1.2 Management of Corporate Development
S	121	221	321	621	7.2.1		8.2.1 Project	Programs 10.1.3 Monitoring the company effectiveness
tion	Develop	ment and improvement of	methods and technologies of wor	k (the accumulation and t	transfer of experience and	best practices)	management	10.1.4 Organizational
Leari and nova	1.2.2	2.2.2	3.2.2	6.2.2	7.2.2	9.2.2	development 8.2.2 Optimization of end-	design 10.1.5 Human capital Development
<u>п</u> ;		Process	and procedure management (incl	luding corrective and prev	/entive actions)		to-end processes	10.1.6 IT Development
ent	1.3.1 Customer	2.3.1 Design and	3.3.1 CIW scheduling	6.3.1 Planning of material purchasing	7.3.1 Materials inventory management	9.3.1 Working capital management	8.3.1 Stock of orders management	10.1.7 Construction and reconstruction of their own buildings and facilities
ageme	relationship management	2.3.2 Accounting for	3.3.2 CIW registration 3.3.3 CIW monitoring and analysis	6.3.2 Planning of subcontracting	7.3.2 Transportation schedules management	9.3.2 Management of cashflow budget	8.3.2 Order (project) planning	10.1.8 Quality Management
mana	1.3.2 Preparation of technical and	design and engineering work	3.3.4 Resource planning for CIW	6.3.3 Planning costs for materials and subcontractors	7.3.3 Vehicles workload planning	9.3.3 Investment management	8.3.3 Order (project) performance monitoring and control	10.2.1 Management of assignments and personal tasks
ght and	proposals 1.3.3 Feasibility study for	2.3.3 Monitoring and analysis of design and engineering work	3.3.5 Resource accounting for CIW 3.3.6 Monitoring and analysis of resources utilization in CIW	6.3.4 Cost accounting for materials and subcontractors	7.3.4 Storage budgeting	9.3.4 Management of receivable and payable accounts	8.3.4 Planning, monitoring and analysis of order's economic indicators	10.2.2 Day-to-day human resource management 10.2.3 IT support
Oversiç	orders	accounting and analysis for design and engineering	3.3.7 CIW cost planning 3.3.8 Cost accounting for CIW	6.3.5 Cost control and analysis for materials and subcontractors	7.3.5 Transportation budgeting	9.3.5 Control of financial and economic performance	indicators	10.2.4 Maintenance and repair of their own buildings and facilities
<i></i> е́			and materials 3.3.9 Monitoring and analysis of CIW economic performance					10.2.5 Management of maintenance and repair of vehicles and machinery
	1.4.1 Opportunity management	2.4.1 Survey work	3.4.1 Preliminary work	6.4.1 Search and selection of material suppliers and	7.4.1 Receipt of materials at the central warehouse	9.4.1 Financing	8.4.1 Execution of CIW orders	10.2.6 Energy resources provision 10.2.7 Public Relations
	1.4.2 Preparation of tender	documentation development	3.4.2 Construction	subcontractors	7.4.2 Receipt of materials at the construction site	9.4.2 Financial payments 9.4.3 Conducting deposit	8.4.2 Execution of design and/or engineering orders	10.2.10 Environmental health and safety (EHS)
ution	documentation and participation in tenders	2.4.3 Engineering documentation development	3.4.3 Installation of engineering systems	material suppliers and subcontractors	7.4.3 Placement and storage of materials	operations 9.4.4 Accounting and	8.4.3 Execution of complex orders	10.2.14 Legal support
Exect	1.4.3 Contract work with	2.4.4 Cost estimates development	3.4.4 Finishing work 3.4.5 Supervision of	6.4.5 Procurement requests	into the work 7.4.5 Return of materials	Reporting 9.4.5 Tax Accounting and		10.2.15 Economic Security
4. 8	1.4.4 Advertising and media activity	2.4.5 Pre-production 2.4.6 Designer supervision	construction 3.4.6 Interim Acceptance of Work 2.4.4 Treesfors ( building as a larger of building as a	6.4.6 Monitoring of contracts with suppliers and subcontractors	to the warehouse 7.4.6 Handling supplies (Loading / unloading) 7.4.7 Freight	Keporting		10.2.16 Paperwork
		2.4.7 Expert evaluation of the developed projects	structures in operation	6.4.7 Claim work				

# 1. Componentized operations architecture EALab (as a tree in ORG-Master)

Classifier: Operations components (capabilities) ×	Classifier: Operations components (capabilities) ×
Name	Name
Arketing and Sales	🕢 🗃 Marketing and Sales
庄 💆 Vision & Strategy	🕀 🗐 Design and engineering
🕀 🛃 Learning and Innovation	G G Construction and installation work (CIW)
Oversight and management	A Vision & Strategy
Customer relationship management	Management of functional strategies (design_performance monitoring) for CIW
Preparation of technical and commercial proposals	M Learning and Innovation
Feasibility study for prospective orders	Development and improvement of methods and technologies of CIW
Execution	Development and improvement of methods and technologies of CIV
Opportunity management	Process and procedure management for CIW
Preparation of tender documentation and participation in tenders	Oversight and management
Contract work with customers	CIW scheduling
Advertising and media activity	CIW registration
Design and engineering	CIW monitoring and analysis
Image: Book Strategy	Resource planning for CIW
	Resource accounting for CIW
Versight and management	Monitoring and analysis of resources utilization in CIW
Design and engineering planning	CIW cost planning
Accounting for design and engineering work	Cost accounting for CIW and materials
Monitoring and analysis of design and engineering work	Monitoring and analysis of CTW economic performance
Cost planning, accounting and analysis for design and engineering	
Execution	
Survey work	
Design documentation development	Construction
Engineering documentation development	Installation of engineering systems
	Finishing work
Pre-production	Supervision of construction
Designer supervision	Interim acceptance of work
Expert evaluation of the developed projects	Transfer of buildings and structures in operation
Construction and installation work (CIW)	🕣 🕣 Material procurement and subcontracting
	🕂 🗐 Logistics
End-to-end order management	😥 🗐 End-to-end order management
	Finance
General administration and support	



#### **Problematical areas**



# Justifications, links with problems 🛛 🗞 EALab

⊕ 🖪	Marketing and Sales	
• 🖪	Design and engineering	
• <b>6</b>	Construction and installation work (CIW)	
00	Material procurement and subcontracting	
E	Vision & Strategy	
Đ	- 🕅 Learning and Innovation	
9	- 😡 Oversight and management	1
	— Planning of material purchasing	
	— Planning of subcontracting	
	Planning costs for materials and subcontractors	1
	Cost accounting for materials and subcontractors	
	Cost control and analysis for materials and subcontractors	1
E	∑ Execution	
	Search and selection of material suppliers and subcontract	
	Contracting with material suppliers and subcontractors	1
	Procurement requests	4
	- Monitoring of contracts with suppliers and subcontractors	1
	Claim work	
•	Logistics	
•	End-to-end order management	
•	Finance	
+ \$	General administration and support	

	ems 💽	
	Проблемы, которые могут быть решены	-
	🗘 Управление	
	🔟 Функциональные системы цепочки поставок	
	🛨 📶 Проектирование и строительство	
	🛨 🏟 Производство и ОТК	
	🖃 🎬 Закупки материалов и взаимодействие с подрядчиками	
5	Lack of the justification for material purchases	
	——— Oдни и те же счета приносят на оплату по несколько раз по разным каналам (разные лю	4
	— Отсутствие оперативного доступа у менеджеров к информации об оплате по контрактам	I.
	— 📺 Одобрение договоров - зачастую генеральный директор, что приводит к задержкам в за	E I
	— Для изготовлений изделий иногда бывает нужно что-то быстро купить. Служба снабжени	
	— 🎬 Выбор поставщиков - подрядчиков (те, кто работают с подрядчиками не участвуют в их	E
	🕣 🎬 Частые задержки комплектующих поставляемых нашими смежниками.	
	🕣 📭 Сметно-договорная деятельность	
	🕣 🔗 Транспортировка	
	🕣 🎒 Складирование	
	н • Разное	
	🎂 Обеспечение	
	🛓 😩 Оргструктура, распределение ответственности и полномочий	
	😑 🍓 Информационно-коммуникационные технологии	1
7	Lack of a system of electronic checkup system for project and facility managers regarding project and facility project and facility managers regarding project and facility	j
	🕀 🍓 Отсутствие полного информационного поля по факту отработки документов, тех или ины	,
	🥘 Информационное отображение деятельности смежных подразделений: отдела снабжен	
	🥷 Отсутствие единой системы (программы) обмена информацией м/д менеджерами	
	🕣 🌉 Lack of mobile business applications	
	🝓 Не совпадают структуры данных 1С и DocsVision	
	🕕 🔂 Персонал	

#### **Strategic Areas**



#### **Strategy analysis: Competitive advantages**



1. Comprehensive solution (stage by stage, from investments to operation; all systems)

2. Terms of works/services provision

Sources of short terms: monitoring and implementation of up-to-date technologies, employees' training.

3. Works/services cost

Sources of competitive prices: discounts from partners (direct relations with vendors/lagre suppliers), comprehensive solutions (all kinds of works), own production, own design.

#### 4. Business reputation

Sources of positive image: successful projects portfolio (good feedback from clients), application of upto-date information and communication technologies (for example, tables computers for operational staff), QMS/ISO.

5. Innovations (interesting designs, modern materials, experts involvement)

6. Financial sufficiency and corresponding payment conditions: "we may start works without advanced payment".

Sources: Projects portfolio, good credit rating, assets that may guarantee loans.

7. Extended warranty

Sources: reliable and experienced suppliers (for example, for utility equipment).

### Strategy analysis: Sources of competitiveness



1. Human factor and human relations ("everything reposes on people with common sense", "people stay in the company because of good climate and good attitude of the management", "heroism of some employees").

2. Reliable partners and set relations with them

Partners bring in their name and experience. Opportunity to establish a strong companies' syndicate aimed at tender and works.

- 3. Portfolio of successful and significant projects
- 4. Sustainable revenue from production
- 5. Good credit rating

## **Strategic goals**



- 1. Comprehensive solutions, which means that we can come up with a solution covering various stages of the facility's life cycle (design and engineering, construction and installation work) and combining works related to all the engineering systems of a building / construction (power supply, ventilation, telecommunications etc.).
- 2. Functioning as a management company, i.e. as a customer, general contractor or general designer. Order management.
- **3.** *Economic efficiency,* i.e. raising construction profitability up to 10-20%.
- **4.** *Image as of an innovative and reliable company*, meaning that construction market players must be sure that "Buildlt" is able to carry out complex projects by using cutting-edge technologies of construction, design, management and interaction with the parties concerned.

### **Strategic objectives**



Name	: 	
- 9	Strate	gic objectives
Ξ		chnical coherence (coherence of technical solutions)
	0	Proper management of changes in technical documents (designs etc.)
	0	Effective cooperation (multi-user work) in terms of technical documents (designs etc.)
Ξ	Ci	oss-functional collaboration
	0	Teamwork of designers and constructors
	0	Effective data exchange between departments (including reducing information "gaps")
Ξ	0 Q	uality of management
	0	Effective planning guaranteeing optimal use of resources
	0	Promotion of operational discipline
	0	Targeted and effective use of materials at the facility
	0	Timely closure of as-built documentation and time-efficient facility handover
9	😡 Fi	nancial and economic management
	0	Adequate and timely obtaining of information on economic efficiency of current projects and company's operation as a who
	0	Increasing the accuracy of cost estimate (feasibility) for prospective orders
	0	Enhancement of responsibility for financial and economic indicators in view of budget and significant aspects
9	🔘 Ef	fective interaction with customers, suppliers and contractors
	-0	Orderly, reliable and timely exchange of information with the external environment
	0	Use of obtained information about loyalty and competence of suppliers and contractors
	0	Mutually profitable working conditions with contracting entities
0	() A	doption and use of innovative technologies
1018	0	Adoption and use of innovative technologies in management
	0	Adoption and use of innovative technologies in interaction with suppliers, contractors and clients
	0	Adoption and use of innovative technologies in design, construction and exploitation
	Ke	eping key gualified employees (with different types of competence)

Justifications for strategic areas (e.g. link with strategy map/objectives tree)	<ul> <li>Warketing and Sales</li> </ul>	Design and engineering	<ul> <li>Construction and installation work (CIW)</li> </ul>	Material procurement and subcontracting	<ul> <li></li></ul>	ALearning and Innovation	$\blacksquare \ll_{Oversight}$ and management	Planning of material purchasing	Planning of subcontracting	Planning costs for materials and subcontractors	Cost accounting for materials and subcontractors	Cost control and analysis for materials and subco	■ ØExecution	Search and selection of material suppliers and su	Contracting with material suppliers and subcontr	Procurement requests	Monitoring of contracts with suppliers and subco	Claim work	EALab
🖅 🐲 Strategic goals																			
🗐 🥪 Strategic objectives																			
Technical coherence (coherence of technical solutions)																			
Proper management of changes in technical documents (designation)	r	4																	
Effective cooperation (multi-user work) in terms of technical d	o(	4																	
Cross-functional collaboration																			
Teamwork of designers and constructors		4	7																
Effective data exchange between departments (including redu	ci .																		
🚍 🥪 Quality of management																		_	
Effective planning guaranteeing optimal use of resources		1	2							-									
Promotion of operational discipline		2	4														$\bigcirc^1$		
Targeted and effective use of materials at the facility			4													1	-		
Or Timely closure of as-built documentation and time-efficient fa	ci .		4																
Financial and economic management																			
Adequate and timely obtaining of information on economic efforts	fi	1	2																
Increasing the accuracy of cost estimate (feasibility) for prosperation	c 1																		
Enhancement of responsibility for financial and economic indication	s:		3							$\bigcirc^1$	$\bigcirc^1$	$\bigcirc^1$							
Effective interaction with customers, suppliers and contractors													_						
🮯 Упорядоченный, надежный и оперативный обмен информ	31																		
🎯 Использование накопленной информации о лояльности и	ĸ													$\bigcirc^1$	1		$\bigcirc^1$		

#### **Critical areas**



#### **Critical areas and potential for IT support**



#### **Existing systems**



#### **Priorities for IT implementation (incl. interrelationships)**



#### **Categories of IS for priority areas**



## Two types of projects





Can be solved by mean of the Systemic improvement of operating model. They are considered together with strategic priorities.

# Step 2 (Transformation concept and roadmap)

Comprehensive development projects

Information technologies

Processes

Org. structure and responsibilities

People

#### **Quick wins**

	1. Marketing and Sales	2. Design and engineering	3. Construction and installation work (CIW)	4. Material procurement and subcontracting	5. Logistics	9. Finance	8. End-to-end order management	10. General administration and support
Vision & Strategy	1.1.1	2.1.1	3.1.1 Nanagement of functional strategie	6.1.1 ss (design, performance r	7.1.1 nonitoring)	9.1.1	8.1.1 Development and monitoring of the business strategy	10.1.1 Formation of corporate strategy 10.1.2 Management of Corporate Development Programs
2. Learning and Innovation	1.2.1 Develop 1.2.2	2.2.1 ment and improvement of 2.2.2 Process	3.2.1 Trethods and technologies of wor 3.2.2 Trand procedure management (inc	6.2.1 k (the accumulation and t 6.2.2 luding corrective and prev	7.2.1 transfer of experience and 7.2.2 ventive actions)	9.2.1 best practices) 9.2.2	8.2.1 Project management methods and techniques development 8.2.2 Optimization of end- to-end processes	10.1.3 Monitoring the company effectiveness       10.1.4 Organizational design       10.1.5 Human capital Development       10.1.6 IT Development
igement	1.3.1 Customer relationship management	2.3.1 Design and engineering planning 2.3.2 Accounting for	3.3.1 CIW scheduling 3.3.2 CIW registration 3.3.3 CIW monitoring and	6.3.1 Planning of material purchasing 6.3.2 Planning of subcontracting	7.3.1 Materials inventory management 7.3.2 Transportation schedules management	9.3.1 Working capital management 9.3.2 Management of	8.3.1 Stock of orders management 8.3.2 Order (project) planning	10.1.7 Construction and reconstruction of their own buildings and facilities 10.1.8 Quality Management
sight and mana	1.3.2 Preparation of technical and commercial proposals 1.3.3 Feasibility study for prospective orders	design and engineering work 2.3.3 Monitoring and analysis of design and engineering work 2.3.4 Cost planning, accounting and analysis	analysis         3.3.4 Resource planning for CIW         3.3.5 Resource accounting for CIW         3.3.6 Monitoring and analysis of resources utilization in CIW	<ul> <li>6.3.3 Planning costs for materials and subcontractors</li> <li>6.3.4 Cost accounting for materials and subcontractors</li> </ul>	7.3.3 Vehicles workload planning 7.3.4 Storage budgeting	9.3.3 Investment management 9.3.4 Management of receivable and payable accounts	8.3.3 Order ( project) performance monitoring and control 8.3.4 Planning, monitoring and analysis of order's economic indicators	10.2.1 Management of assignments and personal tasks 10.2.2 Day-to-day human resource management 10.2.3 IT support
3. Overs		for design and engineering	3.3.7 CIW cost planning 3.3.8 Cost accounting for CIW and materials 3.3.9 Monitoring and analysis of CIW economic performance	6.3.5 Cost control and analysis for materials and subcontractors	7.3.5 Transportation budgeting	9.3.5 Control of financial and economic performance		10.2.4 Maintenance and repair of their own buildings and facilities 10.2.5 Management of maintenance and repair of vehicles and machinery 10.2.6 Energy resources
	1.4.1 Opportunity management 1.4.2 Preparation	2.4.1 Survey work 2.4.2 Design documentation	3.4.1 Preliminary work	6.4.1 Search and selection of material suppliers and subcontractors	7.4.1 Receipt of materials at the central warehouse 7.4.2 Receipt of materials at the construction site	9.4.1 Financing 9.4.2 Financial payments	8.4.1 Execution of CIW orders 8.4.2 Execution of design and/or engineering	10.2.7 Public Relations
ution	of tender documentation and participation in tenders	development 2.4.3 Engineering documentation development	3.4.3 Installation of engineering systems	6.4.3 Contracting with material suppliers and subcontractors	7.4.3 Placement and storage of materials 7.4.4 Issuing of materials	9.4.3 Conducting deposit operations 9.4.4 Accounting and	orders 8.4.3 Execution of complex orders	health and safety (EHS) management 10.2.14 Legal support
4. Exec	1.4.3 Contract work with customers 1.4.4 Advertising	2.4.4 Cost estimates development 2.4.5 Pre-production	3.4.4 Finishing work 3.4.5 Supervision of construction 3.4.6 Interim Acceptance of	6.4.5 Procurement requests 6.4.6 Monitoring of	into the work 7.4.5 Return of materials to the warehouse 7.4.6 Handling supplies	Reporting 9.4.5 Tax Accounting and Reporting		10.2.15 Economic Security
	and media activity	2.4.6 Designer supervision 2.4.7 Expert evaluation of the developed projects	Work 3.4.7 Transfer of buildings and structures in operation	contracts with suppliers and subcontractors 6.4.7 Claim work	7.4.7 Freight			10.2.18 Collaboration

### **Controversial issue**





Example object of IT support: Process of materials request



# Projects – Operations components matrix

What operations components will be improved by what project

Example: 1C Workflow implementation project for materials request

plementation project	I • Projects	• Quick wins	<ul> <li>BI impleme</li> </ul>	<ul> <li>1C «Workfl</li> </ul>	<ul> <li>Tactical pers</li> </ul>	• PDM/PLM	1C «Constr	Business ar	<ul> <li>1C «Purcha</li> </ul>	1C «Workfl	<ul> <li>Strategic per</li> </ul>
Material procurement and subcontracting											
🗈 💆 Vision & Strategy											
🛨 💆 Learning and Innovation											2
🖻 👹 Oversight and management											
Planning of material purchasing									$\bigcirc^1$		
Planning of subcontracting									$\bigcirc^1$		
Planning costs for materials and subcontract											
Cost accounting for materials and subcontra											
Cost control and analysis for materials and s											3
$\blacksquare \sum$ Execution											
Search and selection of material suppliers an									$\bigcirc^1$		1
🔲 Поиск и выбор субподрядчиков											
Contracting with material suppliers and subc										1	
🔲 Заключение договоров с субподрядчикам			C								
Procurement requests				1					$\bigcirc^1$		
Monitoring of contracts with suppliers and s			L							$\bigcirc^1$	1
Claim work											

Operations architecture modeling ..., Kudryavtsev D., Arzumanyan M., 2016

chitecture management implemen se management» implementation

ow» implementation

spective

iction managements

nplementation

oective

ow» implementation (phase 1)

itation (phase 1)

# Project portfolio from "quick wins" category 🚸 EALab

	N⁰	Project	Supporting projects	Vendor	Goals
ument dement	1	Processing and registration of incoming and outgoing documents.	Development of new regulations	1C	Ensure timely delivery, storage, and retrieval of documents
Doci	2	Issue and control of assignments based on incoming documents	Development of new regulations, process optimization	1C	Provide performance discipline
ement	3	Issue and execution control of tasks	Equipment with devices, development of new regulations	1C	Provide performance discipline
Task manag	4	Ordering construction materials and execution control for orders	Equipment with devices, development of new regulations	1C	Provide relevant information for applicants about the status of their material request
Ξ	5	Visualization of construction work plans	Equipment with devices	SAP	Raise awareness of managers and employees at facilities
	6	Visualization of statistics for task execution	Equipment with devices	SAP	Raise awareness of top managers

## **Transformation program**





# Requirements specification for "quick wins" information systems (IS)



Business process analysis and design ...



... and other standard IS implementation activities

### **Results**



As far as there were no regularly measured performance indicators for internal processes at BuildIt, the effects of the described project can be assessed only qualitatively.

The suggested transformation program (for IT implementation) was positively evaluated by BuildIt management.

Projects from "quick wins" category were successfully implemented.

### **Lessons learned**



- 1. Componentized architecture of business operations together with heat maps are good tools for communication at business level and decision making process, which provide a common language within a project.
- 2. We used a simplified approach for modeling and analysis of business architecture ("business operations")
- 3. The developed models are a significant investment in the management infrastructure of BuildIt. Return-on-modeling question.
- 4. It is crucial to take into consideration "soft" aspects and maturity level of an enterprise.
- 5. It is better to move from pure "waterfall" model to more iterative and incremental ones.

### **THANK YOU**

#### **Questions?**

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