Building a Business Case for KYield

Introduction

In most organizations, both public and private, management has a clear responsibility to invest resources only in products or services that can demonstrate a high probability of achieving their organizational mission in a more efficient and cost effective manner.

With investments in organizational improvement deploying tools in information technology, enterprise software, and knowledge systems, the successful scenario usually requires individual champions who are willing and able to make a business case that justifies the deployment of capital. In for-profit companies, champions normally need to demonstrate tangible financial benefits that directly improve the bottom line. In non-profits and government agencies, champions will need to clearly demonstrate to decision makers how the investment will result in achieving the organizational mission, often at a lower cost and more efficient manner while achieving greater benefits.

A strong business case can be made for investments in state of the art knowledge systems, and a return on investment (ROI) can be accurately forecasted and realized for most organizations.

The following is a hypothetical business case for a government agency with 5,000 workers, 3,500 of whom are considered knowledge workers by the hypothetical acting Chief Knowledge Officer (CKO).

Step 1: Investigate with Knowledge Audit

The first step with any prospective investment is to investigate the potential obstacles, opportunities, and risks. Prior to deploying knowledge systems, a thorough and disciplined Knowledge Audit (KA) of the subject organization is essential.

The KYield system includes a tutorial with step by step templates for the leadership team that will result in a Situation Analysis and initial settings in the KYield Management Modules.

Step 2: Crafting of the Situation Analysis

The information gathered from the audit should result in an accurate analysis of the client's current situation as it relates to the organization's ability to achieve its mission. The KA should be exhaustive, embracing all factors that are influencing current organizational effectiveness, including:

- ✓ Organizational structure
- ✓ Business processes
- ✓ Financial structure & budgets
- ✓ Communications pathways
- ✓ Regulatory requirements
- ✓ HR policy & structure
- ✓ IT hardware & software
- ✓ Network architecture
- ✓ Data modeling & types
- ✓ Procurement policies
- ✓ Information volume & quality
- ✓ Security requirements
- ✓ Cultural environment
- ✓ Internal/external barriers to mission
- ✓ Productivity

While much of the KA can be automated and conducted remotely, onsite interviews of key people by experienced independent consultants is highly recommended.

Snapshot of Organization **Mission: Disaster Prevention**			
	Yes	No	#
Total Staff			5,000
K Workers	x		3,500
Interagency	x		198
KA Score	x		673
KM Staff	x		7
CKO	x		1
Staff turnover			5%
R&D Dept.	x		13
Budget			1.63
HR Integrated		x	
Training Integ.	x		23%
Ave. Y PP cost			60,000
Interop Quotient			63%
Accountability Q			41%

Conclusions: Situation Analysis

- In lead role with local, regional, and national partners, subject failed in its sole mission to mitigate a major human disaster. Costs: Lives of 160 citizens, injuries to 612 citizens, $31.4 billion, and credibility.
- IT and communications systems in agency were adopted with little consideration of essential partners, survivability, or efficiency.
- Learning and organizational effectiveness have been low priorities.
- Individual incentives, recognition, and accountability are not integrated.
- Productivity levels in subject are very low.
- Morale is low, apathy is high.

Step 3: Proposed Solution: KYield

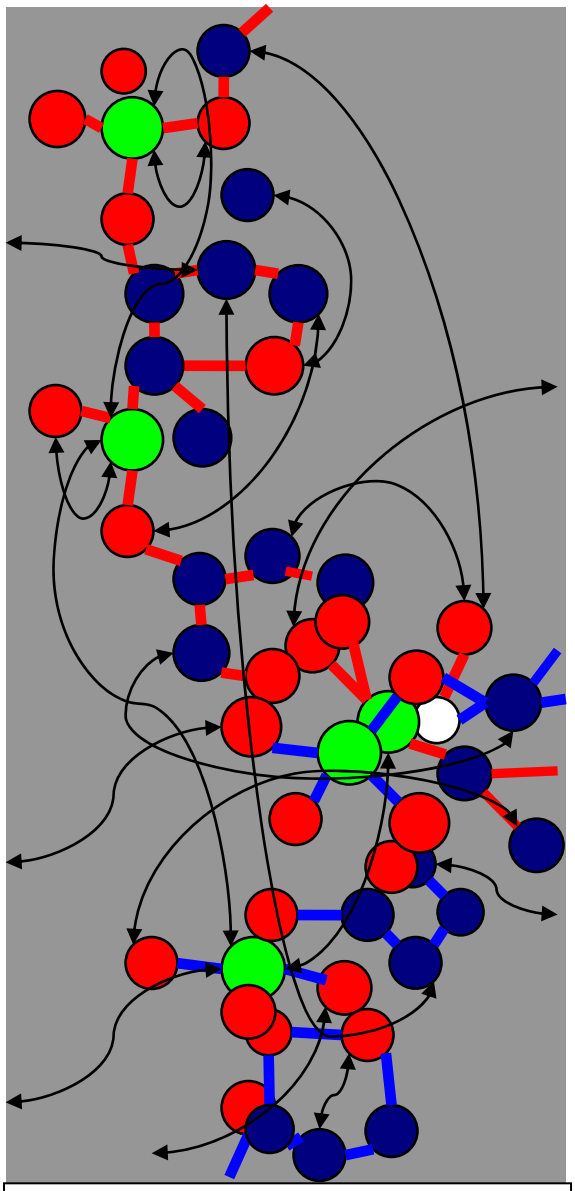
KYield is a state of the art knowledge system for organizations or multi-organizations that conduct the bulk of their work through computer networks. Comprised of a suite of enterprise software modules, KYield integrates with the existing IT infrastructure to provide a disciplined, tailored, and adaptable management platform. The end result is substantially increased productivity and performance levels of individuals and groups with digital work flow directly linked to the organizational mission.

By embracing universal standards and adaptable tools, KYield can be continually modified for changing conditions, empowering the Chief Knowledge Officer (CKO) to manage the output, or yield, of the entire organization. KYield is the adaptable suite of tools that allows the CKO to carry out his or her mission.

Upon deployment of the KYield system, the client organization will begin to realign the interests of the individual and organization, becoming smarter, more agile, more accountable, and better prepared.

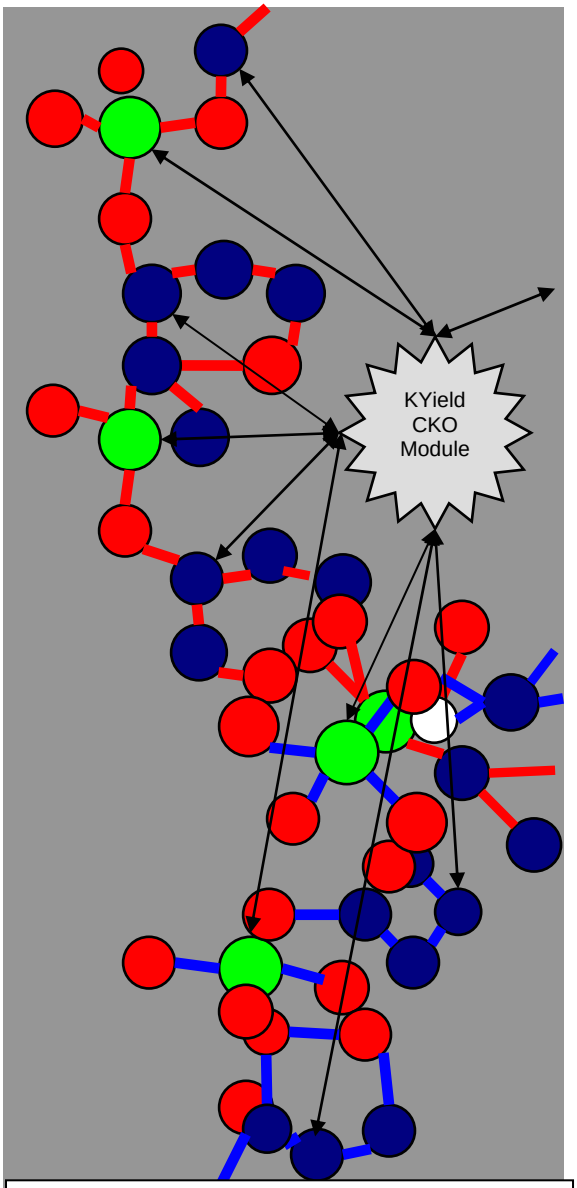
Workflow Patterns of Organization: 1MB Digital File

(1/1000 of Hypothetical Organization Shown)



Organization before deployment

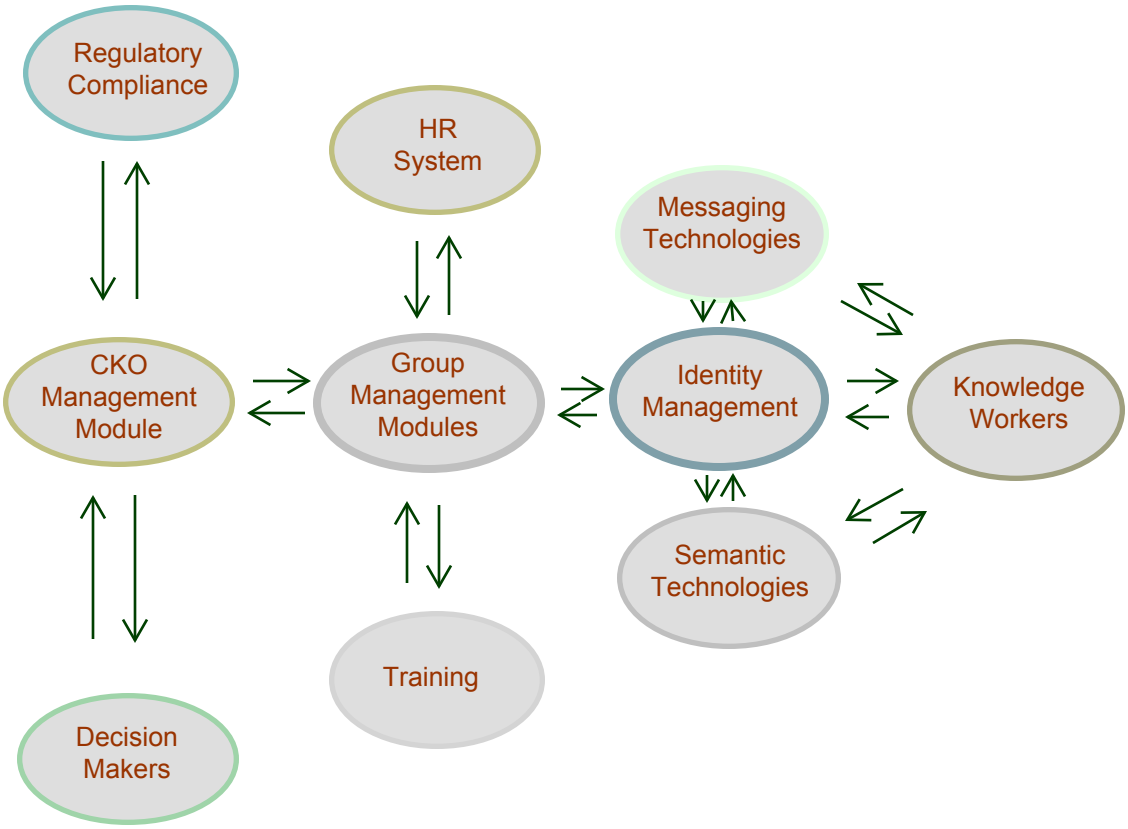
- **Low knowledge yield**
- **20 GB of data transfer**
- **11,000 PP Hours**
- **Low security**



Organization after deployment

- **High knowledge yield**
- **10 GB data transfer**
- **5,000 PP Hours**
- **High security**

KYield Architecture



KYield supports and extends interoperable W3C standards such as XML, RDF, and SOAP, as well as partners with vendors that have installed proprietary software, communications, and database systems in the client network. This combination is the optimum method in providing each client with a tailored architecture that empowers the organization to manage knowledge yield while avoiding replacement of costly systems.

Step 4: Cost Benefit Analysis

Hypothetical Government Agency
Project: KYield
1/13/2006

Cost Calculations

Everything exclusively associated with the installation and deployment of KYield should be included. New purchases should reflect that portion of cost attributed to KYield deployment.

SOFTWARE	Pre-start	Year 1	Year 2	Year 3	Totals
Product server license charges	100,000	0	100,000	100,000	300,000
Product per-user charges	350,000	0	350,000	350,000	1,050,000
Database	50,000	0	0	0	50,000
Operating system software	0	0	0	0	0
Additional server software	15,000	0	0	0	15,000
Additional network software	0	0	0	0	0
Other	0	0	0	0	0
Maintenance fees	0	0	0	0	0
TOTAL SOFTWARE	515,000	0	450,000	450,000	1,415,000

HARDWARE	Pre-start	Year 1	Year 2	Year 3	Totals
Desktop	0	0	0	0	0
Server hardware costs	0	0	0	0	0
Network upgrades	0	0	0	0	0
Other	0	0	0	0	0
Other	0	0	0	0	0
Maintenance fees	0	0	0	0	0
TOTAL HARDWARE					

CONSULTING	Pre-start	Year 1	Year 2	Year 3	Totals
Inside consulting	75,000	50,000	50,000	0	175,000
Outside consulting	150,000	250,000	75,000	50,000	525,000
Initial deployment consulting	100,000		0	0	100,000
Integration	250,000	500,000	100,000	0	850,000
Other	30,000	30,000	0	0	60,000
Other	0	0	0	0	0
TOTAL CONSULTING	605,000	830,000	225,000	50,000	1,710,000

PERSONNEL	Pre-start	Year 1	Year 2	Year 3	Totals
Management	200,000	200,000	200,000	200,000	800,000
IS	250,000	250,000	75,000	75,000	650,000
Staff	75,000	75,000	25,000	25,000	200,000
Other	0	0	0	0	0
Accounting	25,000	0	0	0	25,000
Performance incentives	0	7,350,000	7,350,000	7,350,000	22,050,000
Other	0	0	0	0	0
TOTAL PERSONNEL	550,000	7,875,000	7,650,000	7,650,000	23,725,000

TRAINING	Pre-start	Year 1	Year 2	Year 3	Totals
Employee time	0	2,019,238	58,000	58,000	2,135,238
Trainer cost	0	0	0	0	0
Outside location costs	0	0	0	0	0
Other	0	0	0	0	0
Other	0	0	0	0	0
TOTAL TRAINING	0	2,019,238	58,000	58,000	2,135,238

OTHER	Pre-start	Year 1	Year 2	Year 3	Totals
Webcast	0	0	0	0	0
Airfare and travel	25,000	100,000	15,000	15,000	155,000
Other	0	0	0	0	0
TOTAL OTHER	25,000	100,000	15,000	15,000	155,000

TOTAL COSTS	Pre-start	Year 1	Year 2	Year 3	Totals
	1,695,000	10,824,238	8,398,000	8,223,000	29,140,238

Benefit Calculations

The KYield system provides important benefits in several key areas. The objective of the system is to improve organization functionality while reducing costs for all knowledge workers in the organization.

Benefits fall into two primary categories: direct benefits that can be accurately measured and impact the budget, and indirect benefits that bring value to the organization, but are more difficult to measure, such as an improved mission oriented culture.

Since KYield is a new system and tailored to each customer organization, it is expected that pilot deployments with large organizations will be the primary method of demonstrating the value of the system. The most accurate forecast of the value in deploying KYield can be achieved through completion of the knowledge audit, which will then provide initial settings in the management modules.

Direct Benefits

Lower IT costs

By working with universal standards and any vendor, KYield reduces long-term IT costs and offers a variety product configuration options.

Reconfigured desktop:

The KYield audit is expected to reveal that a portion of desktops do not need the most expensive desktop software suites.

Reconfigured desktop calculation:

Number of employees with reconfigured desktop (1000) x
Average annual savings per employee ($250)

Total estimated Y benefit of reconfigured desktops $250,000

Lower data costs:

Managing the volume of data volume and consumption reduces data bandwidth and storage costs.

Data calculation:

Storage:

(number of users) x (75 MB x $.53) = (Storage cost per year)
3500 x 75 MB x $.53 = 139,125 x 25% reduction $34,781

Data tranfer:

1 TB per year at $2mm total x 25% reduction $500,000

Total estimated annual benefit of reduced data costs $534,781

Direct Benefits	Pre-start	Year 1	Year 2	Year 3	Totals
Lower IT costs	0	784,781	784,781	784,781	2,354,343
Other		0	0	0	0
Other	0	0	0	0	0
Total Direct Benefits	0	784,781	784,781	784,781	2,354,343

Indirect Benefits

Improved information integrity

Tailored information filtering and delivery combined with structured data strengthens the integrity of information which increases security and the quality of decision making.

Improved productivity

Reduced time sifting through irrelevant information, reduced redundancy, and mission linked work flow improves productivity while improving work quality.

Productivity calculation:

Total number of employees in system	3,500
Average annual fully loaded cost per employee	60000
Expected increase in productivity per employee	4%
Estimated annual benefit	$8,400,000

Improved human capital

The KYield suite includes a module that provides the option to incentivize individuals and groups, which also increases work quality, accountability, and knowledge retention.

Mission oriented organizational culture

The entire KYield system is designed to align the interests between the individual and the organization in the digital workplace, resulting in a more mission-oriented culture.

Indirect Benefits	Pre-start	Year 1	Year 2	Year 3	Totals
Improved information integrity					
Reduced Disaster Expenditures	0	3,320,000	3,320,000	3,320,000	9,960,000
Saved lives	0	2,750,000	2,750,000	2,750,000	8,250,000
Improved partner communication	0	0	0	0	0
Reduced infrastructure costs	0	0	0	0	0
Other	0	0	0	0	0
Improved productivity	0	5,040,000	8,400,000	8,400,000	21,840,000
Improved human capital					
Reduced employee turnover	0	472,500	472,500	472,500	1,417,500
Improved knowledge retention	0	1,050,000	1,050,000	1,050,000	3,150,000
Improved innovation	0	0	0	0	0
Other	0	0	0	0	0
Mission oriented culture	0	0	0	0	0
Total Indirect Benefits	0	12,632,500	15,992,500	15,992,500	44,617,500

Total Benefits	Pre-start	Year 1	Year 2	Year 3	Totals
	0	13,417,281	16,777,281	16,777,281	46,971,843

ROI	Pre-start	Year 1	Year 2	Year 3	Totals
	-1,695,000	2,593,043	8,379,281	8,554,281	17,831,605

ROI Y3 61.19%

Step 5: Risk Analysis

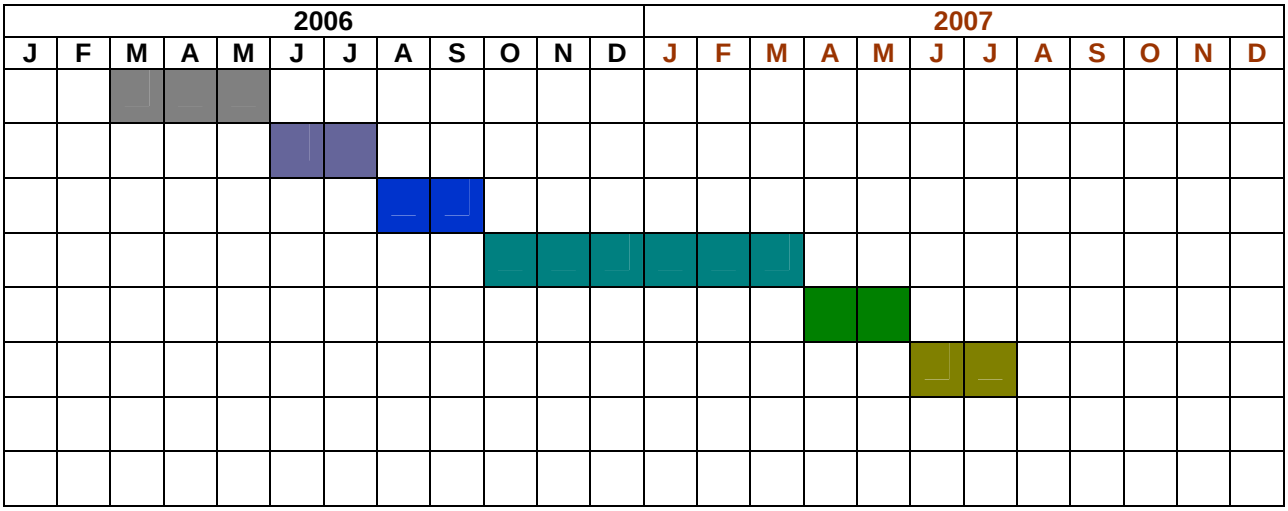
Degree of Risk

1-10 10 highest risk

Factors	Cost	Schedule	Mission	Comments
Programmatic				
Telecommuting	1	3	-3	Project should assist with Fed telecommuting goals
Transformation	3	-3	-3	Assist with interagency cooridination/communication
Budget	3	3	0	
Other				
Operational				
Director	4	4	-5	Expect some resistance internally to any new enterprise
IT	4	4	-5	system
Finance	4	4	-5	
HR	5	5	-5	
Training	2	2	-5	
Other				
Technical				
Interoperability	-3	-3	-3	
Legacy	4	4	4	
Desktop	3	3	3	
Database	3	3	3	
Network	-3	3	-3	
Other				
Vendor				
Financial	4	4	4	Pre A round- Funding subject to Pilot Agreements
Management	4	4	4	Pioneers in Knowledge Systems, Desktops
Project Team	5	5	5	Incomplete
Facilities	5	5	5	Undecided
Other				
Product				
KYield	7	5	-7	
Averages	3	3	-1	

Compliance	Yes	No
EVM	x	
OMB A-119	x	
FEA	x	

Step 6: Deployment Timeline



Step 7: Conclusions and Recommendations

The subject and the product appear to be an excellent match. However, since the product KYield is an experimental system tailored to each client, requires integration with enterprise client systems, and does not yet have clients to interview or systems to test; a smaller pilot is the best path available.

- Given that the client is a department within a large agency, and must work collaboratively with peers within the agency as well as locally and nationally, it is recommended that an interagency pilot be conducted.
- The Knowledge Audit for the subject should be initiated as soon as possible.
- The KA team should be comprised of a team of internal and external experts in conjunction with KYield management.
- The internal team should include senior staff from Human Resources, the offices of the CIO and CFO, as well as the department Director.
- The Chief Knowledge Officer or equivalent should be the point person for the project.
- It is recommended that the Audit Chair report directly to the head of the department, or in the case of a multi-department or multi-agency pilot, the chair of the multi-agency committee.