

Capstone Project Proposal and Plan

ITC 571 2016_90

Implementable Information Assurance & Knowledge Management framework (IKM) for business decision makers.



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1 – Initiation

Project Charter

Title

Implementable Information Assurance and Knowledge Management framework (IKM) for business decision makers.

This project is a component focussing on innovative information and communication technologies for subject ITC 571 as a capstone subject to a Masters in Information Technology with a specialty in Security.

The blog weekly progress and thoughts can be viewed at

<http://thinkspace.csu.edu.au/stephenrose/>

Business Case and rationale

For business to create and maintain a competitive advantage it needs to harness, leverage and exploit information technology (Erwin, 2013). With information technology advances has come a revolution in data generation and the massive revolutionary opportunities to gain understanding and knowledge like never before. Business decision makers need to be informed as to the opportunities, risks and costs associated with this opportunity (Burdon, Siganto, & Coles-Kemp, 2016; Thalman, 2014).

The purpose of this project is to provide practical assessment of existing information and knowledge management frameworks, integrating these disparate frameworks into a single coherent framework that business decision makers can use so their business can be at the forefront of creating this competitive advantage (Long, 2011).

Business frameworks (of all types) are abundant (Cherdantseva, 2016; Delak, Damiji, & Majweski, 2014; Karkoskova & Feuerlicht, 2015; Sunthonwutinun & Chooprayoon, 2016; Vorisek, Pour, & Buchalcevova, 2015), varied and focussed on corporate sized business and senior level ICT managers and less so for business decision makers in either large or small business (board level, franchisees and small and medium business owners).

This project will focus on six areas, utilising the best approach the ICT industry and academics have to offer, to incorporate these in a concept of simple completeness, consistency (language, approach and process) and visual appeal across all aspects.

Further purpose of this project was to ensure that the focus was left upon the business as the key stakeholder in any process and to that end the examination of business models and frameworks more broadly is undertaken in addition to the IKM.

Implementation of change and technology in business can be slow and owners, senior managers (non IT) and board members are not technically able to determine the sheer importance of the topics areas (Safa & Furnell., 2016). Integration of these topics into a data assurance and knowledge management framework and methodology is the main goal of this project to essentially have a complete and integrated data management platform that is clear to understand and is comprehensive with serious risk and security underpinnings.

Information Security, data management, and knowledge management are especially developing and changing at such a rapid pace that most frameworks are out of date as soon as they are published. Further these frameworks have specific purpose focussing on each of their disciplines, with specific terminology, approaches and “variations”. Singularity in approach, design and language is important to integrate these frameworks to a usable end IKM framework.

Each topic was deliberating and carefully selected to maximise benefit to the business in the context of risk, security and knowledge generation.

Return on investment is important as well as ways to measure pre and post implementation information assurance and knowledge management practices (key performance indicators) and will be examined within this project.

Milestones

There are several milestones, including the project plan finalisation allowing for an overview process. According to course criteria this also includes Project Selection, Scope Definition and Acceptance, Work Breakdown Structure, Bibliography Annotation, Project Presentation and Project submission. Please see Gantt chart and Work Breakdown Structure for further details.

Deliverables

The ultimate deliverable of this project is an Implementable Information Assurance and Knowledge Management framework (IKM) for business decision makers. Further there are

deliverables along the way as part of the assessment process, including Project Plan, Work Breakdown Structure, Annotated bibliography, visual project presentation and this report.

It is also a deliverable goal to actually implement this first version framework within at least 2 businesses with qualitative assessment via psychometric instruments.

Sections within the framework include;

Six sections of the IKM

- a. Risk Management
- b. Information Assurance
- c. People (user awareness, training and management)
- d. Data Storage
- e. Data Mining
- f. Knowledge Management



Figure 1 Proposed Framework for Investigation note colours, and location of each topic to build on each other from a clockwise direction

Sub-deliverables within each topic area include

1. Relationship to broader plan and same approach
2. Three levels of implementation in each topic area (similar to maturity level)
3. Stages of implementation standard across each topic area and each implementation level
4. Diagrammatic representation of process within each topic and level
5. KPIs and metrics to evaluate each component

Research Methods

This project will be evaluating current research in these topics by using the university Primo search engine for subscribed journal articles. With heavily emphasis on peer-reviewed journals and text books within the last 2 years. Key research concepts such as reliability, validity, causation, reflexivity, quality will be used to rate and review opinion and conclusions.

In addition to this are industry papers, association publications (e.g ISACA COBIT5[®] and ITILv3[®]) and vendor whitepapers. As previous these sources are also rated and viewed based on level of independence (bias), detail as well as degree of application and semantics. Further web searches to confirm and show levels of anecdotal rebuttals within non peer-reviewed websites to give another less respected viewpoint on each to ensure the academic papers and vendors sales brochures are within broader “community” commentary. This is a very minor but important part of the research.

Conceptual Framework

The generation of a framework within a project management project and framework itself is interesting. This is important and deliberate since the implementation of any framework must be done in a methodological manner to ensure repeatability, consistency and accuracy. Likewise, as demonstration of this process, this entire project in managed under a modified PMBOK[®] methodology (Project Management, 2013) including this communication document. Thus to clarify, this project is part of an adapted PMBOK[®] framework creating a secondary framework as the output.

Problem statement

Business decision makers are not in a technical position to take full advantage of the revolution in information assurance and knowledge management that is occurring. For some in small business they also don't have the expertise to understand and resource a full corporate framework that suits their needs and budget. The common outcome is an ad hoc approach to the six areas in the IKM leaving considerable un-mitigated risk and/or lost opportunity. This project targets this problem.

Innovation Statement

Innovation is the creation of a new idea, product or method. ICT has seen many innovations over the past decade with many businesses being slow to adapt and take on the advantages of these new opportunities without consideration to the information security risk. The untold loss in missing potential for the most valuable resource (knowledge) in a business is also a focus.

Literature and industry review has revealed a considerable number and variety of detailed frameworks available for consideration by business. Thus far no single framework has fulfilled the criteria and requirements of this project and its deliverables. In fact, this author is surprised that there is very few able to cross more than one of the six aspects in a consistent manner.

Thus this is a new approach, for a unique and common problem that is applicable to many Australian businesses. This project outcome fills a gap in the understanding, approach within the market.

Ethical Issues

There are several ethical issues raised by this project, namely around the purpose of the project and the way in which its implementation will affect business owners and their customers.

It is important ethically that the deliverables are what they say they are. Complete and reliable. Business decision makers without technical understanding need to be able to rely on this framework as best practice as it presents itself as. Considering this issue, this project aims to approach this ethical dilemma methodically and the implementation process should help resolve this as it cannot be prescriptive in every business given the wildly varying nature of risk in every business. This presents an approach that needs to be water tight and applicable into the future with changing circumstances.

One further ethical concern involves data usage and privacy. This will be important during the data storage, mining and knowledge management topics for customers. This project aims to cover this framework from legal, philosophical and ethical perspectives (Australian Privacy Principles and also the Aristotelian virtues considerations) (Al-Saggaf, 2015; Al-Saggaf & Islam, 2012; Brandis, 2016; Dean, Payne, & Landry, 2016). This provides an integrated ethical/legal approach within an integrated risk and security framework for data and knowledge management. More ethical considerations are likely to be raised during this project and this is expected and will be addressed as progress occurs.

2- Planning

Requirements for end implementations and thus project outcomes

- Value – time/cost/scope/cost to benefit
- Concise and accurate – practical
- Technically correct
- Practical detail, completeness and usability
- Multimodal opportunity for different learning styles and abilities

Scope

- Scope topics (see fig 1.)
 - Risk Management – implementation of a common risk based approach to ICT, data and knowledge management
 - Information Assurance – implementation of information security in the context of risk and information systems
 - People - user awareness, training and management
 - Data Storage – cloud based implementation as well as data management plan
 - Data Mining – revealing additional information and then knowledge to give a competitive advantage on an ethical basis
 - Knowledge Management – derivation of deeper understanding of information in the context of the business environment

- Research frameworks for scope topics
 - Review implementable methodologies for range of corporate, boardroom and small business
 - Consolidate positives and negatives of each approach, provide a compelling basis for certain adoptions and implementations ahead of others
- Review success and uptake of each frameworks and methodologies in marketplace
- Research importance of each topic within ICT and innovative aspect of implementation – purpose of implementation, risks and losses without such incorporation
- Creating an Implementable framework and plan

Not in Scope

- Detailed hardware and software requirements
- Individual recommendations unless universally best practice
- Justification of model creation and implementation for business value (cost) – this remains an assumption to be questioned in another project

Work Breakdown Structure (WBS)

Note the WBS number corresponds to sections of this project outline and communication document.

WBS	Task Name
	Project ITC571
1	Initiation Stage
1.1	Create Blog
1.2	Mindmap Blog goals, name,
1.3	Topic Decisions
1.3.1	Review list of possible
1.3.2	initial Literature Research for suitability
1.3.3	Profile Pros/Cons Topics
1.3.4	Topic Chosen
2	Planning Stage
2.1	Create Assessable items timing
2.2	Create into post on forum/link/CV

2.3	Create Subtopic areas
2.4	Review Project planning technique
2.5	Review Project planning topics
2.6	Create overall topic numbering system
2.7	Finalise project scope
2.8	Finalise project times
2.9	Decide document format and ongoing data management
2.10	Consider risk mitigation
2.11	Finalise Planning document
2.12	Bibliography Planning
2.13	Information control strategy
2.14	Project hypothesis formation
3	Execution Stage
3.1	Blog Post Weekly (weekly recurrence Bug in MSP16)
3.2	Annotated Bibliography
3.3	Overview
3.3.1	What is the project, what are frameworks, methodologies
3.3.2	Business Requirements of project
3.3.3	Business requirements of F & M
3.3.4	Business Frameworks generally
3.3.5	Integration of business frameworks and ICT Frameworks
3.3.6	Clarify General Business Frameworks and Integration goals
3.4	Topic 1 - Information Assurance
3.4.1	Find All frameworks worthy
3.4.2	List and Review frameworks
3.4.3	Review available methodologies
3.4.4	Limitation and advantages of methodologies and frameworks
3.4.5	Completed section summary, pros/cons/integration aspects
3.5	Topic 2 - Data Storage/Knowledge Management
3.5.1	Find All frameworks worthy
3.5.2	List and Review frameworks
3.5.3	Review available methodologies
3.5.4	Limitation and advantages of methodologies and frameworks
3.5.5	Completed section summary, pros/cons/integration aspects
3.6	Topic 3 - Risk Management
3.6.1	Find All frameworks worthy
3.6.2	List and Review frameworks
3.6.3	Review available methodologies
3.6.4	Limitation and advantages of methodologies and frameworks
3.6.5	Completed section summary, pros/cons/integration aspects
3.7	Topic 4 - Data Usage - Mining
3.7.1	Find All frameworks worthy
3.7.2	List and Review frameworks
3.7.3	Review available methodologies
3.7.4	Limitation and advantages of methodologies and frameworks
3.7.5	Completed section summary, pros/cons/integration aspects
3.8	Topic 5 - User Experience & Training

3.8.1	Find All frameworks worthy
3.8.2	List and Review frameworks
3.8.3	Review available methodologies
3.8.4	Limitation and advantages of methodologies and frameworks
3.8.5	Completed section summary, pros/cons/integration aspects
3.8.6	Topic 6 - Business Size Implications
3.8.6.1	Corporate implications
3.8.6.2	Boardroom implications
3.8.6.3	Small business Implications
3.9	Review & Report
3.9.1	Submit Annotated Bibliography
3.9.2	Integrate frameworks
3.9.3	Integrate methodologies
3.9.4	Apply Framework and Method to live business
3.9.5	Report difficulties and success of implementation
3.9.6	Prepare Presentation
3.9.7	Video Presentation of Report
4	Closing
4.1	Review Project Successes
4.2	Review Project Failures
4.3	Review Outcomes and Deliverables

WBS	Task Name	Duration	Start	Finish	November 2016							December 2016							January 2017							February 2017													
					19	22	25	28	31	03	06	09	12	15	18	21	24	27	30	03	06	09	12	15	18	21	24	27	30	02	05	08	11	14	17	20	23	26	29
	Project ITC571	84 days	20/10/16	13/02/17																																			
1	Initiation Stage	4 days	20/10/16	26/10/16																																			
1.1	Create Blog	1 day	20/10/16	20/10/16																																			
1.2	Mindmap Blog goals, name,	1 day	21/10/16	21/10/16																																			
1.3	Topic Decisions	3 days	21/10/16	26/10/16																																			
1.3.1	Review list of possible	2 days	21/10/16	24/10/16																																			
1.3.2	initial Literature Research for suitability	1 day	24/10/16	24/10/16																																			
1.3.3	Profile Pros/Cons Topics	1 day	24/10/16	24/10/16																																			
1.3.4	Topic Chosen	0 days	26/10/16	26/10/16																																			
2	Planning Stage	15 days	26/10/16	14/11/16																																			
2.1	Create Assessable items timing	2 days	27/10/16	28/10/16																																			
2.2	Create into post on forum/link/CV	1 day	14/11/16	14/11/16																																			
2.3	Create Subtopic areas	1 day	27/10/16	27/10/16																																			
2.4	Review Project planning technique	1 day	26/10/16	26/10/16																																			
2.5	Review Project planning topics	1 day	26/10/16	26/10/16																																			
2.6	Create overall topic numbering system	1 day	27/10/16	27/10/16																																			
2.7	Finalise project scope	1 day	27/10/16	27/10/16																																			
2.8	Finalise project times	1 day	27/10/16	27/10/16																																			
2.9	Decide document format and ongoing data management	1 day	27/10/16	27/10/16																																			
2.10	Consider risk mitigation	1 day	27/10/16	27/10/16																																			
2.11	Finalise Planning document	3 days	27/10/16	31/10/16																																			
2.12	Bibliography Planning	1 day	27/10/16	27/10/16																																			
2.13	Information control strategy	1 day	27/10/16	27/10/16																																			
2.14	Project hypothesis formation	1 day	27/10/16	27/10/16																																			

WBS	Task Name	Duration	Start	Finish	November 2016							December 2016							January 2017							February 2017																				
					19	22	25	28	31	03	06	09	12	15	18	21	24	27	30	03	06	09	12	15	18	21	24	27	30	02	05	08	11	14	17	20	23	26	29	01	04	07	10	13		
3	Execution Stage	74 days	26/10/16	03/02/17	[Gantt bar for Execution Stage]																																									
3.1	Blog Post Weekly (weekly recurrence Bug in MSP16)	69 days	26/10/16	27/01/17	[Gantt bar for Blog Post Weekly]																																									
3.2	Annotated Bibliography	59 days	26/10/16	13/01/17	[Gantt bar for Annotated Bibliography]																																									
3.3	Overview	6 days	13/11/16	20/11/16	[Gantt bar for Overview]																																									
3.3.1	What is the project, what are frameworks, methodologies	7 days	13/11/16	20/11/16	[Gantt bar for 3.3.1]																																									
3.3.2	Business Requirements of project	7 days	13/11/16	20/11/16	[Gantt bar for 3.3.2]																																									
3.3.3	Business requirements of F & M	7 days	13/11/16	20/11/16	[Gantt bar for 3.3.3]																																									
3.3.4	Business Frameworks generally	7 days	13/11/16	20/11/16	[Gantt bar for 3.3.4]																																									
3.3.5	Integration of business frameworks and ICT Frameworks	7 days	13/11/16	20/11/16	[Gantt bar for 3.3.5]																																									
3.3.6	Clarify General Business Frameworks and Integration goals	7 days	13/11/16	20/11/16	[Gantt bar for 3.3.6]																																									
3.4	Topic 1 - Information Assurance	6 days	21/11/16	28/11/16	[Gantt bar for Topic 1 - Information Assurance]																																									
3.4.1	Find All frameworks worthy	6 days	21/11/16	28/11/16	[Gantt bar for 3.4.1]																																									
3.4.2	List and Review frameworks	6 days	21/11/16	28/11/16	[Gantt bar for 3.4.2]																																									
3.4.3	Review available methodologies	6 days	21/11/16	28/11/16	[Gantt bar for 3.4.3]																																									
3.4.4	Limitation and advantages of methodologies and frameworks	6 days	21/11/16	28/11/16	[Gantt bar for 3.4.4]																																									
3.4.5	Completed section summary, pros/cons/integration aspects	6 days	21/11/16	28/11/16	[Gantt bar for 3.4.5]																																									
3.5	Topic 2 - Data Storage/Knowledge Management	6 days	29/11/16	06/12/16	[Gantt bar for Topic 2 - Data Storage/Knowledge Management]																																									
3.5.1	Find All frameworks worthy	6 days	29/11/16	06/12/16	[Gantt bar for 3.5.1]																																									
3.5.2	List and Review frameworks	6 days	29/11/16	06/12/16	[Gantt bar for 3.5.2]																																									
3.5.3	Review available methodologies	6 days	29/11/16	06/12/16	[Gantt bar for 3.5.3]																																									
3.5.4	Limitation and advantages of methodologies and frameworks	6 days	29/11/16	06/12/16	[Gantt bar for 3.5.4]																																									
3.5.5	Completed section summary, pros/cons/integration aspects	6 days	29/11/16	06/12/16	[Gantt bar for 3.5.5]																																									
3.6	Topic 3 - Risk Management	6 days	07/12/16	14/12/16	[Gantt bar for Topic 3 - Risk Management]																																									
3.6.1	Find All frameworks worthy	6 days	07/12/16	14/12/16	[Gantt bar for 3.6.1]																																									
3.6.2	List and Review frameworks	6 days	07/12/16	14/12/16	[Gantt bar for 3.6.2]																																									
3.6.3	Review available methodologies	6 days	07/12/16	14/12/16	[Gantt bar for 3.6.3]																																									
3.6.4	Limitation and advantages of methodologies and frameworks	6 days	07/12/16	14/12/16	[Gantt bar for 3.6.4]																																									
3.6.5	Completed section summary, pros/cons/integration aspects	6 days	07/12/16	14/12/16	[Gantt bar for 3.6.5]																																									

Communications Plan

Communications will be of an ongoing nature with a final report and presentation. Stakeholders include the author, the newly established consulting business Zel.uno, Charles Sturt University and University supervisor/marker, and fellow students.

Communications will be

- a) Ongoing
 - a. Blog posting at least weekly with updates in form of WBS updates, reference reviews and overall thoughts and direction of the project. This facilitates evidence and understanding of all stakeholders as to the progress of the project and current authors thoughts. It also allows the author to stay on message and helps prevent scope creep. Additionally, forum interactions will be done regularly in the form of daily check ins and contributions as appropriate.
 - b. Final – static report delivered in the end, of which this is part. Further video or live presentation of this research will be carried out as part of the assessment schedule in this subject
 - c. This report – This report serves as communication with assessors and as an item for marking, further it represents progress in this project beyond the planning stages through to execution and closure. It provides a final reference and final document beyond a video presentation.

Risks

Risk analysis was carried out at the end of planning, to allow for a review of current thinking on scope and cost (time) of the author. Further risk as to topic selection and marking outcomes were also considered.

Risks were considered as follows

Risk Category	Risk Type	Risk Control	Severity
Scope	Size of information processing required	Review of scope and revision along timeline of project. Prioritisation of topics done. Ability to trim project as progression due to open nature of project.	Minor
Time cost	Ability to dedicate time required for scope as above and change in ability to dedicate time	Control scope to time available. Dedication of researcher to project clear and unwavering. Clear objectives and outcomes with good direction is achieved.	Moderate

		Inability to predict illness or other life changes cannot be managed.	
Project Selection	Poor topic choice as considered by stakeholders. Inability of project to provide innovation in areas that are well studied previously.	Find niche and unique perspective. Demonstrate importance of project to author and also to applications and benefit to business, where there are considerable implementation gaps	Minor
Innovation	Not innovative enough	Identification of niche and gap in understanding and implementation of topics. Research has led to a solid understanding of topics and available integrations to view niche and innovative stance to comply.	Minor

3 – Execution

(part of the communication plan not part of the project proposal)

4- Monitoring

(part of the communication plan not part of the project proposal)

5 - Closing

(part of the communication plan not part of the project proposal)

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