

Open University M.Sc. Technology Management – Ian Glossop

Enterprise Architecture Survey

[Should you feel there is insufficient space allowed to answer any question, further space may be found at the back of this questionnaire. Please indicate clearly to which question the response belongs.]

Contact details *Please supply a name by which you wish to be identified – this may be a pseudonym if you wish to remain anonymous. Please provide as many or as few contact details as you wish.*

Name (or pseudonym): _____

Country: _____ Industry: _____

E-mail: _____ Linked-In Profile: _____

About your professional role or job.

Description of your organisational role: (guideline 30 words)

Job title / role: _____

Job Description: _____

Your view of Enterprise Architecture

How would you define the discipline, practice, activity or subject of “Enterprise Architecture”?
(guideline 50 words)

Enterprise Architecture is ... _____

What are the purposes of Enterprise Architecture? What is it for? (Enter a '1' for the (single) primary or most important purpose, 2 for secondary purposes and a 'tick' or 'check' for others)...

Modelling the Enterprise: _____ Maintaining Enterprise Stability: _____

Improving Enterprise Coherence: _____ Informing Decision-Making: _____

Designing IT Systems: _____ Aligning IT (Delivery) to Business Needs: _____

Facilitating Organisational Change: _____ Improving IT Delivery: _____

Formulating Business Strategy: _____ Executing Business Strategy: _____

Developing IT or Technology Strategy: _____ Governing IT or Technology Development: _____

Developing Organisational Capabilities: _____ Developing Technology Capabilities: _____

Facilitating Software or IT Development: _____ Specifying Technology Acquisitions: _____

Assessing Proposed Change Impacts: _____ Aligning Business and Technology Strategies: _____

Other Purposes (please provide a short description of each):

Your knowledge of / expertise in Enterprise Architecture

Please rate your EA knowledge / expertise on a scale of 1 to 5 where 1 = Novice and 5 = Expert

Please qualify your EA education level (tick/check all that apply):

One or more training courses of a few weeks or less: _____

Several training courses plus a year or more of practical experience: _____

Five years or more of continuous professional development: _____

One or more years of formal postgraduate study at a recognised institution: _____

Academic research in Enterprise Architecture (or related subject) at a recognised institution: _____

A teaching position / professorship in Enterprise Architecture at a recognised institution: _____

Other EA or EA-related education (please describe): _____

Please characterize your 'base' education (tick or check all that apply):

University degree (or similar) in:

Non-IT Physical Sciences / Engineering: _____ An IT-related subject – e.g. Computer Science: _____

Other Sciences / Engineering: _____ Business / Finance / Management (inc. MBA): _____

Mathematics / Logic / Philosophy: _____ Non-Business/Management Social Science: _____

Modern Languages: _____ Arts / Classics: _____

Other? (please identify): _____

Non-university-degree education (please describe): _____

Other form of education (please describe): _____

With which of the following methods / frameworks are you familiar?

Please rate your familiarity on a scale of 1 to 5 where 1 = basic awareness to 5 = expert knowledge, enter a 0 or leave blank for no awareness / knowledge.

Zachman: _____ TOGAF: _____ FEAF: _____ DODAF: _____

MODAF: _____ (Barnard) EA³: _____ (Spewak) EAP: _____ Archimate: _____

NCC SAM: _____ SEAM: _____ Lean EA: _____ PEAf (Smith): _____

Gartner EAF: _____ SAP EAF: _____ Cap-Gemini IAF: _____ DEMO: _____

VPEC-T: _____ GERAM: _____ IDEF: _____ Ent. Engineering: _____

Oracle EAF: _____ IBM GS Method: _____ CSC Catalyst: _____ Graves' 'Real' EA: _____

DYA: _____ FFLV-GODS: _____ BCS/ISEB EA Model: _____

Tapscott & Caston's Views: _____ Krutchen's 4+1 Views: _____

Others? (Please identify and rate): _____

In your view, (please rate on a scale of 1 to 5)

How important is the use of an EA Framework? (1=unimportant, 5=critically important): _____

How important is it to tailor or adapt the framework to the particular situation of the enterprise?
(1=unimportant, 5=critically important): _____

Is your preferred/usual framework sufficient in itself or does it require to be supplemented with
methods/techniques from elsewhere? (1=needs supplement, 5=self-sufficient) Please justify
(guideline 50 words): _____

Characterising the Enterprise Architecture Discipline

In your view, which of the following aspects/features of Enterprise Architecture are definitive? (Please rate on a scale of 1 to 5 where 1 = superfluous/unnecessary to 5 = essential / definitive).

As-Is Modelling: _____ To-be Modelling: _____ Roadmapping: _____

Transitional Architectures: _____ Holistic approach: _____

Use of multiple 'Views': _____ Multiple Perspectives or Viewpoints: _____

Use of (one or more) formal modelling language(s) and/or conventions: _____

Development of a single, unified formal model: _____

Business Modelling (Organisation, Processes, Functions ...): _____

[Business] Information Modelling: _____

IT Infrastructure (including Applications) Modelling: _____

Non-IT Technology Infrastructure Modelling: _____

Business Operations Modelling (inc. Operating Model development) : _____

Business Context / Environment Modelling: _____

Use of 'Patterns' and/or 'Building Blocks': _____

Use of Architecture Principles and Strategies: _____

Business Design and Change (including Transformation) Governance: _____

Technological Infrastructure (IT and Non-IT) Design and Development Governance: _____

Use of Technology (inc. Software) Standards and Evaluation: _____

Use of Systematic Technology Evaluation / Selection / Acquisition Processes: _____

Technological Environment/Context Modelling and Technology (IT and non-IT) Strategy: _____

Development Programme and Project Scoping and Planning: _____

Organisational Change and Innovation Scoping, Evaluation and Planning: _____

Development Programme Financial Planning: _____

Usage of Hierarchical Decomposition and Portfolio Management (Techniques): _____

Others? (Please identify and rate)

How do you distinguish Enterprise Architecture activity from (IT or Non-IT) Solution Architecture or Design? (guideline: 50 words)

How do you distinguish Enterprise Architecture from Programme Management or Project Management or Change Management – or any combination thereof?

Where, in your view, does Enterprise Architecture fit in the panoply of organisational activities? Is it a part of any of these traditional functional areas: Strategic Management, Financial Management, Human Resources Management, Operations Management, IT Management, Marketing Management etc.?

Enterprise Architecture's Intellectual Inheritance

From which of the following older disciplines does Enterprise Architecture inherit, encompass or incorporate (concepts, principles, theories, models etc.)? (Please rate on a scale of 1 to 5 where 1 = little inheritance, 5 = concepts, models etc. largely taken over into EA and 0 = no inheritance) [If you are not familiar with any of these disciplines/theories please feel free to look them up on the Internet.]

Systems Thinking

(generally) ____

Traditional (Hard) Systems Engineering ____ General Systems Theory ____

'Classical' Cybernetics ____ Operational / Operations Research ____

Socio-Technical Systems (Trist et al.) ____ Systems Dynamics (Forrester et al.) ____

Systems Dynamics (Senge) ____ Second Order Cybernetics ____

Soft Systems Methodology ____ Appreciative Systems (Vickers) ____

Viable Systems Method (Beer) ____ Critical Systems Heuristics (Ulrich) ____

Critical Systems Thinking (Jackson) ____ System-of-Systems Approach/Method ____

Viable Systems Method (Beer) ____ Critical Systems Heuristics (Ulrich) ____

Self-Producing Systems (Maturana) ____ Total Systems Intervention (Jackson) ____

Strategic Options Development and Analysis (Ackerman and Eden) ____

Learning Systems (Kolb, Lewin, Argyris, Schon et al.) ____

(General) Network Analysis ____

Notions of Modularity, Causality, Material, Information and Energy Flows ____

Systems Modelling, Influence Diagrams, Data-flow diagrams ____

Notions of Systems Decomposition, Open and Closed Systems ____

The "Data, Information, Knowledge, Wisdom" (or Action) Hierarchy ____

Theories distinguishing and relating Data and Information ____

Systems Coupling and Interaction Notions – Loose-Tight ____

Other "Systems Thinking" disciplines/flavours ? (please identify and rate)

Resource Based View of the Firm	_____	Strategic / Scenario Planning	_____
Learning Organisation	_____	Organisational Adaptation	_____
Organisational Configurations	_____	Emergent Strategy	_____
Environmental Analyses (e.g. PESTEL)	_____	Business Process Re-engineering	_____
Business Process Management	_____	Stages of Growth Model (Greiner)	_____

Financial Management (generally) _____

Activity Based Costing	_____	Real Options Analysis	_____
Cost-Benefit Analysis, DCF, NPV etc.	_____	Investment Appraisal, Capital Rationing etc.	_____

Technology Strategy / Technology Management (generally) _____

Technology Trajectories	_____	Technology Lifecycles	_____
Dominant Design	_____	Technology Strategic Planning (Chisea, Probert)	_____
Technology Audit	_____	Technology Portfolio Management	_____
Actor-Network Theory	_____	'Waterfall' Project Management	_____
Dynamic Capabilities (Teece)	_____	Corporate Coherence (Dosi, Teece, Winter)	_____
Requirements Engineering	_____		
Social Construction of Technology (Bijker, Pinch, et al.)			_____

Information Technology Management (generally) _____

Applications Portfolio Management	_____	Systems Development Lifecycle	_____
(Full/Extended) Systems Lifecycle	_____	Investment Appraisal, Capital Rationing etc.	_____
IT Infrastructure 'Bricolage' (Ciborra)	_____	Technological 'Frames' (Orlikowski)	_____
Stages of Growth Model (Nolan)	_____	IT Governance	_____
Information Technology Eras (Earl)	_____	Requirements Engineering / Management	_____
ITIL Service Management (Delivery)	_____	ITIL IT Infrastructure Management (IT Ops)	_____
Information Systems (IS) / Information Technology (IT) Distinction			_____
Information Infrastructures Design Theory (Hanseth)			_____

Information and Data communications / Data Networks Theory (generally) _____

Shannon-Weaver Information Theory _____ ISO 7-Layer Model _____

Data-communication protocols _____ Integration Software Infrastructure _____

Operations Management (generally) _____

Notions of Processes and Transformations _____ Facilities Layout / Planning _____

Capacity Planning _____ Quality Assurance / Control _____

Statistical Process Control _____ Systematic Decision-Making _____

Product and Process Engineering _____ Forecasting and Production Planning _____

Just-In-Time/Throughput Planning _____ Reliability Engineering _____

Systematic Project/Change Management _____ Transition-to-Service Planning _____

Inventory Planning _____ Business Continuity Planning _____

Software Engineering (generally) _____

Modular Software Structures (Architectures) _____ S/W Loose Coupling Principle _____

Service Oriented Software Architectures _____ Stepwise Refinement _____

Separation of Data and S/W Functionality _____ Structured Data and Data Structures _____

Data Representation and Access Languages _____ Notions of Meta-Data and Master Data _____

Software Application Patterns – e.g. MVC _____ Software Integration Patterns _____

Agile / Rapid Project Management Methods _____ Modelling Techniques _____

Other disciplines ? (please identify and rate)

Enterprise Architecture Context

In your experience / expertise, which of the following are 'sister', subordinate or super-ordinate activities in an enterprise? Please rate according to the degree of interaction or involvement EA has with the activity where 1 = little interaction and 5 = intense interaction. Please rate the importance for success on a scale of 1 to 5 where 1 = unimportant and 5 = critical.

<u>Activity</u>	<u>Superordinate</u>	<u>Sister</u>	<u>Subordinate</u>	<u>Importance</u>
Programme Management	_____	_____	_____	_____
Project Management	_____	_____	_____	_____
Strategy Formulation	_____	_____	_____	_____
Risk Management	_____	_____	_____	_____
IT Operations / Service Delivery	_____	_____	_____	_____
Software Development	_____	_____	_____	_____
Corporate Governance / Compliance / Audit	_____	_____	_____	_____
Project Portfolio Management	_____	_____	_____	_____
Budget Planning / Management	_____	_____	_____	_____
Financial Management	_____	_____	_____	_____
Marketing Management	_____	_____	_____	_____

Is there any distinctive feature of Enterprise Architecture you feel distinguishes it from the other activities typically found in an enterprise, that serve to position it in the enterprise context?

Any other observations you would like to make about the context in which enterprise architecture activities take place (or should take place) ?

The Enterprise Architecture Description or Model

What in your view is the Enterprise Architecture Description or Model? Is it a) a collection of documents, b) a formal symbolic model with precise syntax, c) a collection of system diagrams of more-or-less predefine forms, d) an assemblage of "rich pictures" e) some combination of these things or f) something else?

An Enterprise architecture Description or Model is ... _____

Modelled Components

Which of the following enterprise components do you consider to be important for a useable Enterprise Architecture Model? (Please rate on a scale of 1 to 5 where 1 = superfluous elaboration and 5 = essential). Which are fundamental, irreducible (atomic) types and which are composites (compounded from elements of different types)? Which may be (hierarchically) decomposed into sub-components of the same type (e.g. processes can be decomposed into sub-processes)?

<u>Component Modelled</u>	<u>Importance</u>	<u>Atomic</u>	<u>Composite</u>	<u>Decomposable</u>
Business Functions	_____	_____	_____	_____
Business (Work) Activities / Operations	_____	_____	_____	_____
Programmes (of Work)	_____	_____	_____	_____
Projects	_____	_____	_____	_____
Tasks	_____	_____	_____	_____
Roles	_____	_____	_____	_____
Organisation Units / Structures	_____	_____	_____	_____
Accountabilities	_____	_____	_____	_____
Business Capabilities	_____	_____	_____	_____

Responsibilities	_____	_____	_____	_____
Skills	_____	_____	_____	_____
Knowledge (elements)	_____	_____	_____	_____
Business / Organisational Values	_____	_____	_____	_____
Business Strategies	_____	_____	_____	_____
Market / Sales Projections	_____	_____	_____	_____
Financial Projections	_____	_____	_____	_____
Business Processes	_____	_____	_____	_____
Organisational Policies	_____	_____	_____	_____
Technology Strategies	_____	_____	_____	_____
Business Services	_____	_____	_____	_____
Enterprise Locations	_____	_____	_____	_____
Material (or Materiel) Flows	_____	_____	_____	_____
Energy Flows	_____	_____	_____	_____
Information / Data Flows	_____	_____	_____	_____
Information / Data Stores	_____	_____	_____	_____
Knowledge Flows and Repositories	_____	_____	_____	_____
Information / Data Structures	_____	_____	_____	_____
Information / Data Types	_____	_____	_____	_____
Information / Data Formats	_____	_____	_____	_____
Information / Data Costs / Investments	_____	_____	_____	_____
Information / Data Exchange Protocols	_____	_____	_____	_____
Technology Elements (inc. Software Components)	_____	_____	_____	_____
Technology Functions (inc. Software Functions)	_____	_____	_____	_____
Technology Services (inc. Software Services)	_____	_____	_____	_____
Technology Projections	_____	_____	_____	_____
Technology Types	_____	_____	_____	_____
“Actors” (Someone or something that acts)	_____	_____	_____	_____
“Socio-Technical Systems”	_____	_____	_____	_____
Technological Systems	_____	_____	_____	_____
Social Systems (Formal and Informal)	_____	_____	_____	_____
Actions	_____	_____	_____	_____

Concerns	_____	_____	_____	_____
Powers (Authorities) and Influences (Consultations)	_____	_____	_____	_____
Cultural Elements	_____	_____	_____	_____
Collaborations and Interactions	_____	_____	_____	_____
“Events”	_____	_____	_____	_____
Products/(Customer) Services	_____	_____	_____	_____
“Stakeholders”	_____	_____	_____	_____
Contracts / “SLA”s / “OLA”s	_____	_____	_____	_____

Others? (Please identify and rate)

<u>Component</u>	<u>Importance</u>	<u>Atomic</u>	<u>Composite</u>	<u>Decomposable</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Please define the terms “Node” and “Network” as used in you preferred or usual style of modelling.

A ‘Node’ is ... (guideline: 50 words) _____

A ‘Network’ is ... (guideline: 50 words) _____

Modelled Relationships

Which of the following relationships between elements do you consider to be important for a useable Enterprise Architecture Model? (Please rate on a scale of 1 to 5 where 1 = superfluous elaboration and 5 = essential).

<u>Model Relationship</u>	<u>Importance</u>	<u>Atomic</u>	<u>Composite</u>	<u>Decomposable</u>
Comprises / Is composed of	_____	_____	_____	_____
Groups / Is a group of	_____	_____	_____	_____
Uses / Is used by	_____	_____	_____	_____
Triggers / Is triggered by	_____	_____	_____	_____
Consumes / Is consumed by	_____	_____	_____	_____
'Owns' / Is assigned to	_____	_____	_____	_____
Outputs to / Is input from	_____	_____	_____	_____
Invokes / Is invoked by	_____	_____	_____	_____
Authorises / Is authorised by	_____	_____	_____	_____
Verifies / Is verified by	_____	_____	_____	_____
Receives / Is received by	_____	_____	_____	_____
Transmits to / Receives from	_____	_____	_____	_____
Specializes to / Is a type of	_____	_____	_____	_____
Realises / Is realised by	_____	_____	_____	_____
Instantiates to / Is an Instance of	_____	_____	_____	_____
Depends upon / Is depended on by	_____	_____	_____	_____
Requires or needs / Is required or needed by	_____	_____	_____	_____
Directs / Reports to	_____	_____	_____	_____

Other Relationships? (Please identify and rate)

<u>Relationship</u>	<u>Importance</u>	<u>Atomic</u>	<u>Composite</u>	<u>Decomposable</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

How would you distinguish between 'Infrastructure Views' and 'Technology Views' (or do you consider the terms to be synonymous)? How is technology strategy represented in your preferred set of views (or model or framework)? How is business strategy represented?

To what extent should contingent, stakeholder-centric, arbitrary (not specified within the framework) views (based on the judgment of the architect) be used? (Rate on a scale of 1 to 5 where 1 means arbitrary views should be used very rarely and 5 means frequent use of arbitrary views). Why?

'Reference Models'

How would you define the notion of a 'Reference Model' – as used in your usual / preferred framework? What features distinguish a reference model from other parts of an Enterprise Architecture Description? How are reference models used? What is the relation of reference models to patterns or building blocks or composite types (used in the EA model or description)?

To what extent is the usage of reference models necessary or advisable? Rate on a scale of 1 to 5 where 1 = unnecessary and 5 = absolutely essential. Please justify your rating.

Enterprise Architecture Literature

Core Texts

Which of the following do you consider to be “core texts” (ie essential must-reads for anyone wanting to learn or understand EA, definitive of the discipline as a whole)? Please rate on a scale of 1 to 5 where 5 = absolutely core and definitive and 1 = useful, possibly idiosyncratic and unnecessary perspective.

“Enterprise Architecture as Strategy – Creating a Foundation for Business Execution”, Ross, J.W., Weill, P. and Robertson, D.C., (2006) _____

“Enterprise Architecture Planning – Developing a Blueprint for Data, Applications and Technology”, Spewak, S.H., Hill, S.C. (1992) _____

“ An Introduction to Enterprise Architecture – Linking Business and Technology”, Bernard, S.A., (2005) _____

“Enterprise Architecture at Work – Modelling, Communication and Analysis”, Lankhorst, M. et al., (2004) _____

“Dynamic Enterprise Architecture – How to Make It Work”, Wagter, R., van den Berg, M., Luijpers, J., & van Steenbergen, M., (2005) _____

“Enterprise Architecture – Using the Zachman Framework”, O’Rourke, C., Fishman, N. & Selkow, W., (2003) _____

“Enterprise Architecture – Creating Value by Informed Governance”, Op ‘t Land, M., Proper, E., Waage, M., Cloo, J., and Steghuis, C. (2009) _____

“Guide to Enterprise IT Architecture”, Perks, C and Beveridge, A., (2001) _____

“Lost In Translation – A Handbook for Information Systems in the 21st Century”, Green, N and Bate, C., (2007) _____

“Doing Enterprise Architecture – Process and Practice in the Real Enterprise”, Graves, T., (2009) _____

Seminal Papers

Which of the following papers do you consider to be seminal, and possibly definitive, of Enterprise Architecture? Please rate on a scale of 1 to 5 where 5 = seminal and definitive and 1 = useful, possibly idiosyncratic and unnecessary perspective.

Zachman, J.A., "A Framework for Information Systems Architecture", IBM Systems Journal, Vol. 26, No. 3, (1987). _____

Johnson, J.R., "Enterprise Analysis", Datamation, December, (1984). _____

Nolan, R.L., "Top-Down-Driven Architecture Design", Stage-By-Stage, Vol.8, No. 1,, (1988) _____

Venkatraman, N., "Research on MIS Planning: Some Guidelines from Strategic Planning Research", Journal of MIS, Vol.2, No. 3., (1986) _____

Zachman, J.A. and Sowa, J.F., "Extending and Formalizing the Framework for Information Systems Architecture", IBM Systems Journal, Vol. 31, No. 3, (1992) _____

Beveridge, A. and Perks, C., "Blueprint for a Flexible Enterprise", Intelligent Enterprise, March, (2000). _____

Dietz, J. and Hoogervorst, J., "Enterprise Ontology and Enterprise Architecture – How to let them Evolve into Effective Complementary Notions", Journal of Enterprise Architecture, Vol 1, (2007). _____

Jonkers, H., Lankhorst, M., Buuren, R.V., Hoppenbrouwers, S., Bonsangue, M and Torre, L.V.D, "Concepts for Modeling Enterprise Architectures", International Journal of Cooperative Information Systems, Vol 13 No. 3, (2004) _____

Weiss, S., Aier, S., & Winter, "Towards a Reconstruction of Theoretical Foundations of Enterprise Architecture" in M. T. De Marco, *Information Systems: Crossroads for Organization, Management, Accounting and Engineering* (pp. 461-468). ItAIS: The Italian Association for Information Systems: Springer-Verlag, (2012). _____

Aier, S. and Schelp, J., "A reassessment of enterprise architecture Implementation" In Trends in Enterprise Architecture Research, pages 53-68, (2009) _____

Other (academic) papers you consider to be seminal, important or definitive for Enterprise Architecture? Please identify and rate.

{Title}, {Authors}, {Journal}, {Year}

Are you a regular or occasional reader of

a) the Journal of Enterprise Architecture _____ or

b) Trends in Enterprise Architecture Research _____?

Enterprise Architecture Critique

Enterprise Architecture Deficiencies

Which of the following do you consider to be deficiencies in the way Enterprise Architecture is practised or the academic discipline of Enterprise Architecture? Please rate on a scale of 1 to 5 where 5 = serious deficiency and 1 = unimportant and minor gap.

Information Technology Centrism _____ Lack of Theoretical Basis _____

Neglect of non-IT Technologies _____ Software Centrism _____

Lack of Conceptual Coherence _____ Mechanistic View of Enterprises _____

How would you categorise Enterprise Architecture as a discipline?

- | | | | |
|---|--------------------------|-------------------------------------|--------------------------|
| Pure, Hard Science | <input type="checkbox"/> | Applied Hard Science | <input type="checkbox"/> |
| Pure Social Science | <input type="checkbox"/> | Applied Social Science | <input type="checkbox"/> |
| An Engineering Discipline | <input type="checkbox"/> | A Craft Discipline | <input type="checkbox"/> |
| Pre-Scientific Heuristics | <input type="checkbox"/> | A Management Consultancy Fad | <input type="checkbox"/> |
| A Creative Art | <input type="checkbox"/> | A Form of (Organisational) Politics | <input type="checkbox"/> |
| An Emerging Profession | <input type="checkbox"/> | | |
| An Emerging, Integrative, 'Cross-Functional' Academic Subject | | | <input type="checkbox"/> |

Or some combination of the above, or something else ? Please describe...

Please return the completed survey form to ea-survey@glomal.co.uk. All forms returned before midday on Monday 29th July 2013 will be included in the survey results.

Please tick or check here if you would like a (soft) copy of the survey results (returned to the email address given at the top of this form)

Thank-you for taking your time to complete this survey.

This image shows a sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across most of the width of the page. On the right side, there is a vertical margin line, creating a narrow right margin. The paper is set against a light gray background.

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