Private Cloud based Transformation Projects (PCTP) for Business Intelligence (PCTP_BI)

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The Research Question is:

Which PCTP/BI Services (PCBIS) characteristics and solution s are needed for a sustainable *Entity's* business evolution***?***

Introduction

- **It concerns Polymathic-holistic Private Cloud transformation Projects (PCTP)**
- **This article analyses the role of CBBs and BBs in transformation projects and proposes the Applied Holistic Mathematical Model (AHMM4C) for the Cloud (AHMM4C).**
- **The transformation environment can be used by any team member without any prior computer sciences qualifications.**
- ***Many standards and agile methodologies exist; today they are very advanced and can support refinement processes.***
- ***Adapted Flexible Frameworks like TOGAF and IDEs to support projects.***
- ***The process of transforming a traditional business environment into sets of Composite Building Blocks (CBB).***

Introduction

- ***The proposed framework uses measurable Critical Success Factors (CSF) and Critical Success Areas (CSA) to define the optimal PCTP_BI***

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- ***Project's complexity as well as the usage of underlying Decision-Making System (DMS) and enterprise architecture can be evaluated by a tuneable CSF based mathematical model.***

- ***The PCTP_BI is based on: 1) RP to generate BBs; 2) A Mathematical Model; 3) Framework; and 4) Digital Transformations (DT) …***

- **PCTP_BI identifies a Median Methodology (MDTCAS), OPMS to transform the Legacy Environment into a lean and automated system.**

Introduction

- ***The PCTP_BI supports Project's Complex Implementation Phase (PCIP) that requires a set of in-depth (Refinement) RP, DMS4C, KMS4C, EA, and implementation skills.***

- ***The Architect of Adaptive Business Information System (AofABIS) is to be considered as the optimal choice.***

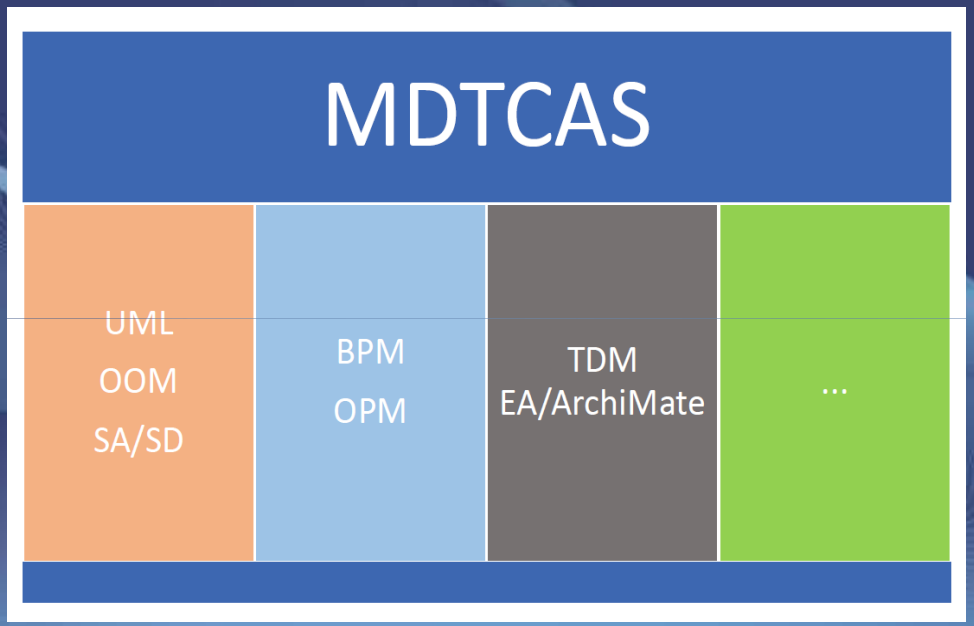

Figure 1 describes the relation between the MDTCAS and the Project's artefacts. The Framework's and RDP's interactions, include three components: 1) DMS4C; 2) KMS4C; and 3) PCTP_BI

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Keywords

- Clouds, BI/AI, PCTP, Clous Services.
- Refinement, and MDTCAS.
- Manager’s Profile.
- Business Transformation Projects.
- Enterprise Architecture.
- Mathematical Model.
- Artificial Intelligence.
- Profile Management.
- Human Resources.
- Critical Success Factors.
- Performance Indicators.

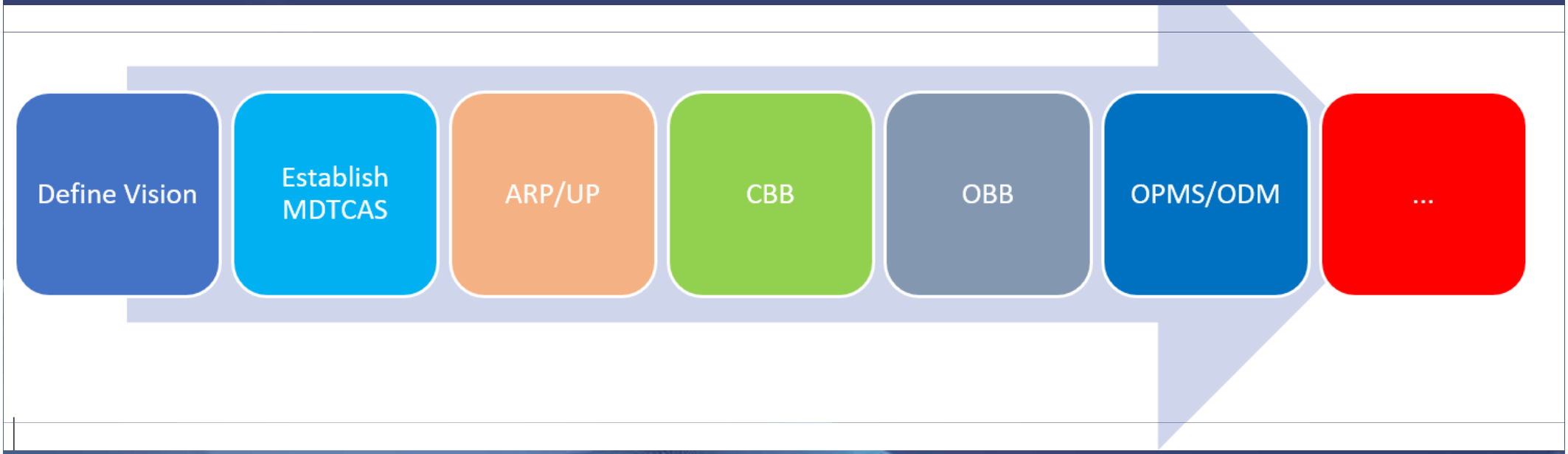
An RP based Project generic pattern

- Clouds and BI.
- Refinement concepts.
- Agile Methodologies and Business CSFs.
- Standards, like TOGAF, UML…
- Holistic EA concept and AI fields.
- Atomic architecture development method.
- Mapping concept and the Conceptual view.
- Atomic services and their granularity.
- Services' registries and integration / APIs.
- Service life cycle management / Agility
- Atomic artefacts.

AGNOSTIC IMPLEMENTATION ENVIRONMENTS

- PCTP_BI based Projects.
- AI based development.
- The holistic meta-architecture concept.
- The micro enterprise components.
- The micro architecture concept.
- The business artefacts concept.
- The micro artefact concept.
- The choreography pattern of atomic services.
- The management of atomic and micro services.
- The neurons based decision making system.
- The fast and continuous development and deployment concept for a BTP global architecture.

A Generic Refinement/RP based PCTP_BI approach

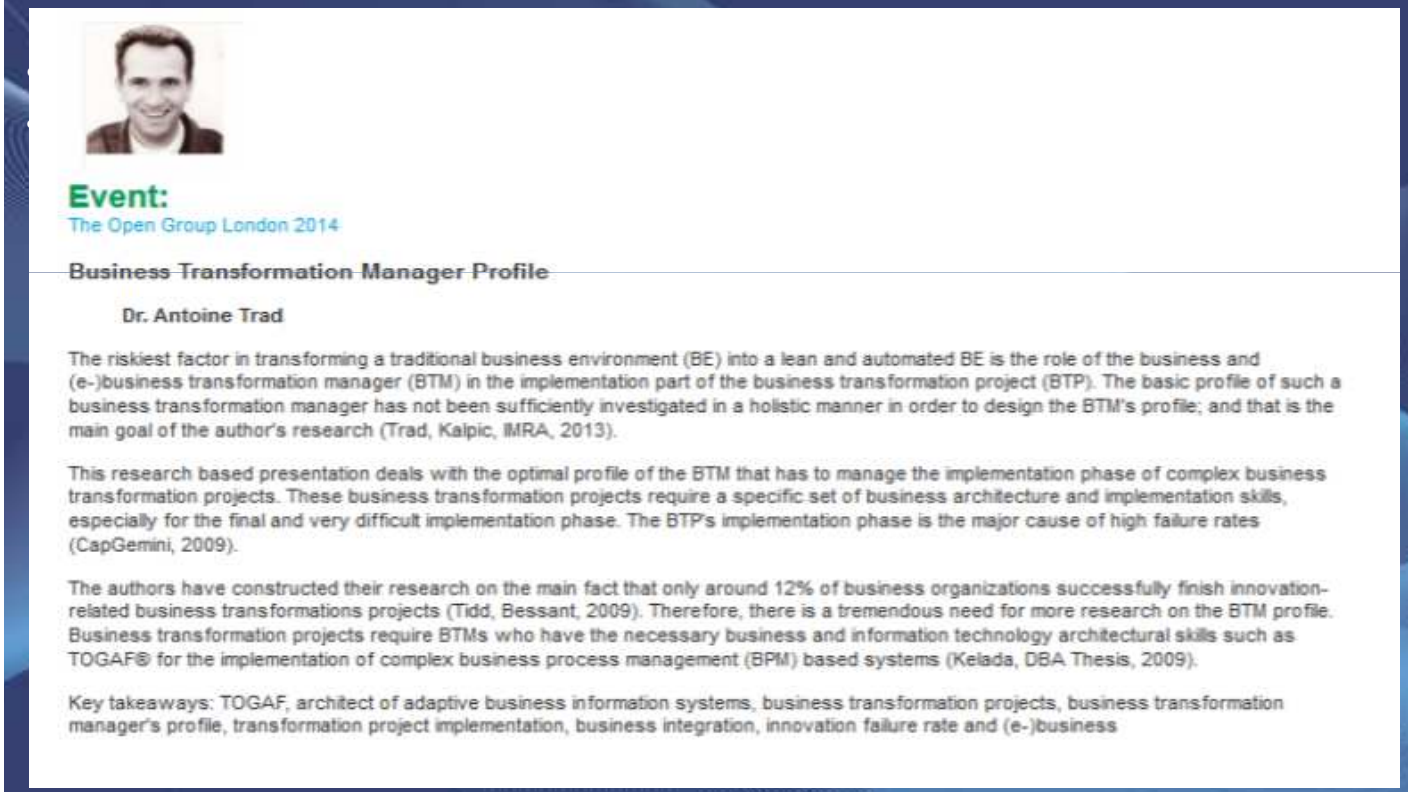


A Generic PCTP_BI approach

- The goal is to attain the defined enterprise change cycles.
- This article's aim is to influence the attitude of a transformation project and implementing of PCTP_BI.
- The research concept is a part of the framework, which is composed of various modules.
- The used mixed method can be considered as a natural complement to conventional Quantitative Analysis and Qualitative Analysis methods presented in the Proof of Concept (PoC).

THE MATHEMATICAL MODEL

- The hyper evolution of information technology methodologies and business engineering disciplines made transformation project's management very complex and these facts for the Environment to have a central decision making module that is based on a mixed method.
- The mathematical model or the decision making module selects one solution that has a value based on factors.
- The evaluation value attached to each node in the tree is a state with complex data and functions containing many constraints. The decision tree's implementation is an HDT object that can be used and tested in the proof of concept



Event:
The Open Group London 2014

Business Transformation Manager Profile

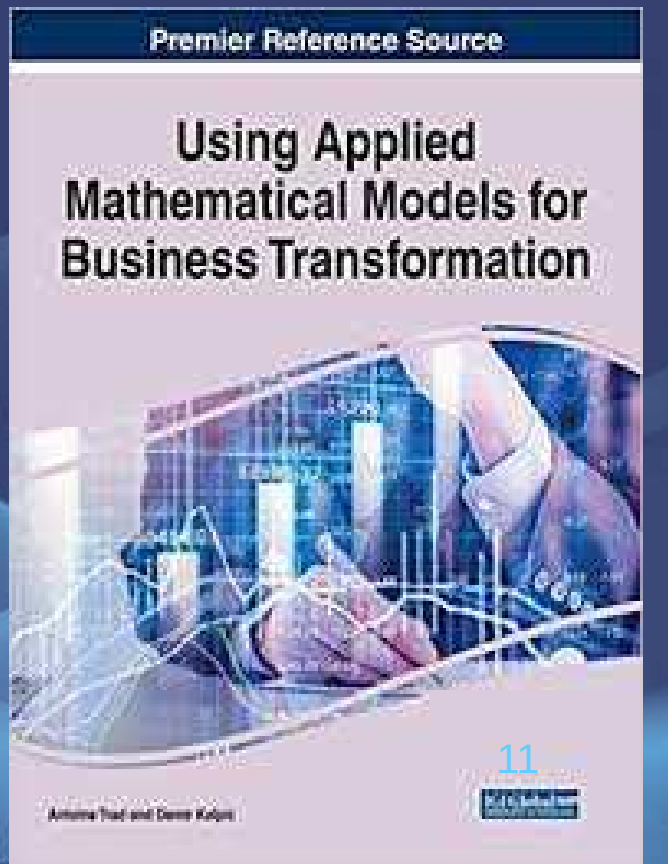
Dr. Antoine Trad

The riskiest factor in transforming a traditional business environment (BE) into a lean and automated BE is the role of the business and (e-)business transformation manager (BTM) in the implementation part of the business transformation project (BTP). The basic profile of such a business transformation manager has not been sufficiently investigated in a holistic manner in order to design the BTM's profile; and that is the main goal of the author's research (Trad, Kalpic, IMRA, 2013).

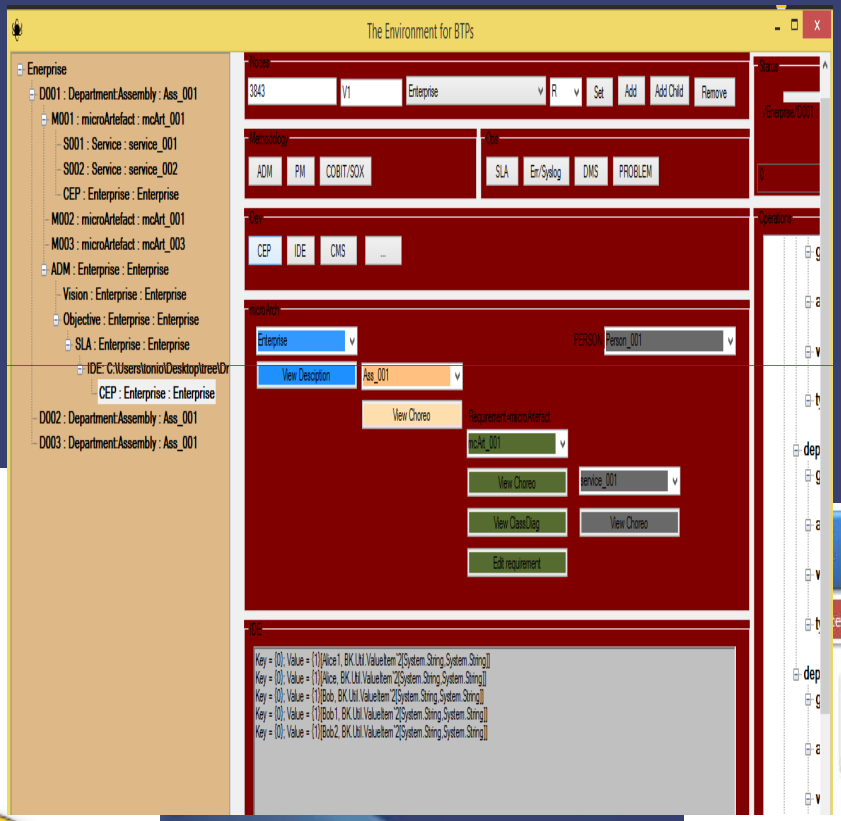
This research based presentation deals with the optimal profile of the BTM that has to manage the implementation phase of complex business transformation projects. These business transformation projects require a specific set of business architecture and implementation skills, especially for the final and very difficult implementation phase. The BTP's implementation phase is the major cause of high failure rates (CapGemini, 2009).

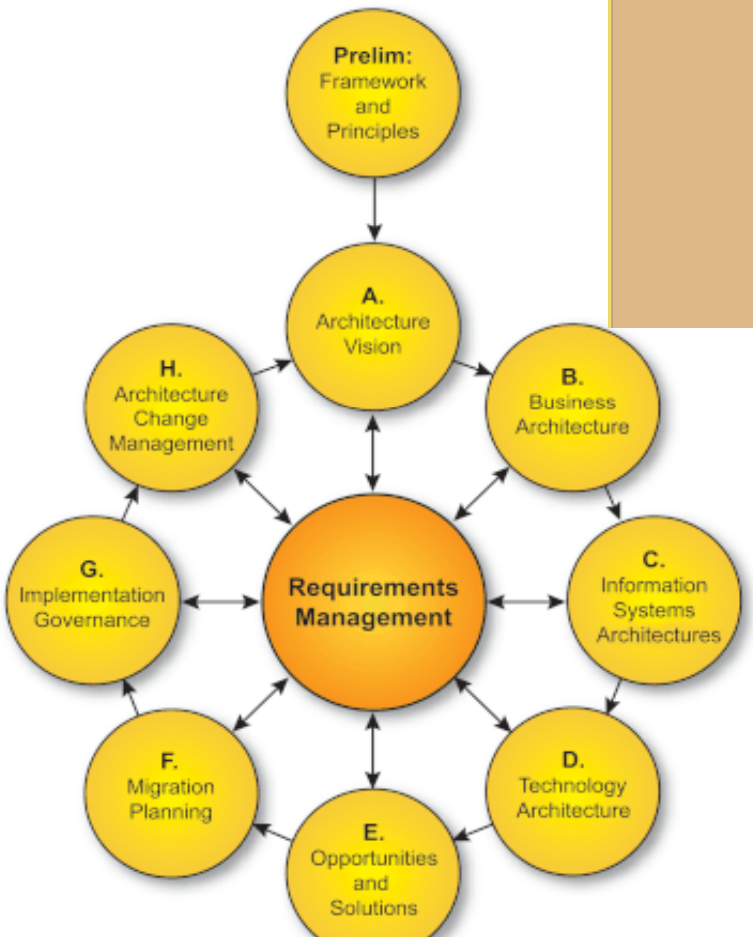
The authors have constructed their research on the main fact that only around 12% of business organizations successfully finish innovation-related business transformations projects (Tidd, Bessant, 2009). Therefore, there is a tremendous need for more research on the BTM profile. Business transformation projects require BTMs who have the necessary business and information technology architectural skills such as TOGAF® for the implementation of complex business process management (BPM) based systems (Kelada, DBA Thesis, 2009).

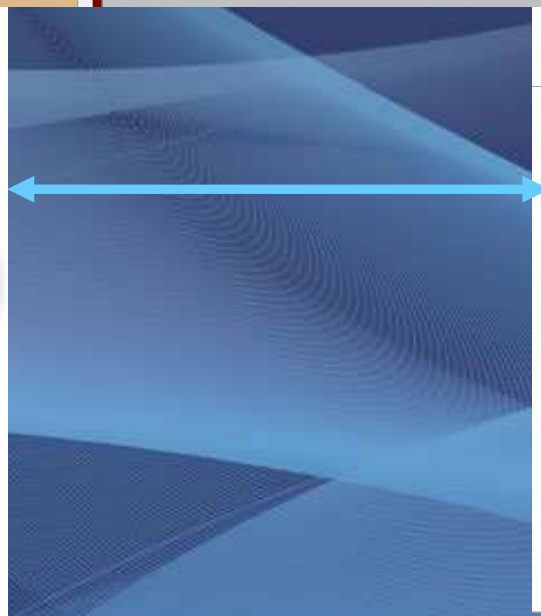
Key takeaways: TOGAF, architect of adaptive business information systems, business transformation projects, business transformation manager's profile, transformation project implementation, business integration, innovation failure rate and (e-)business

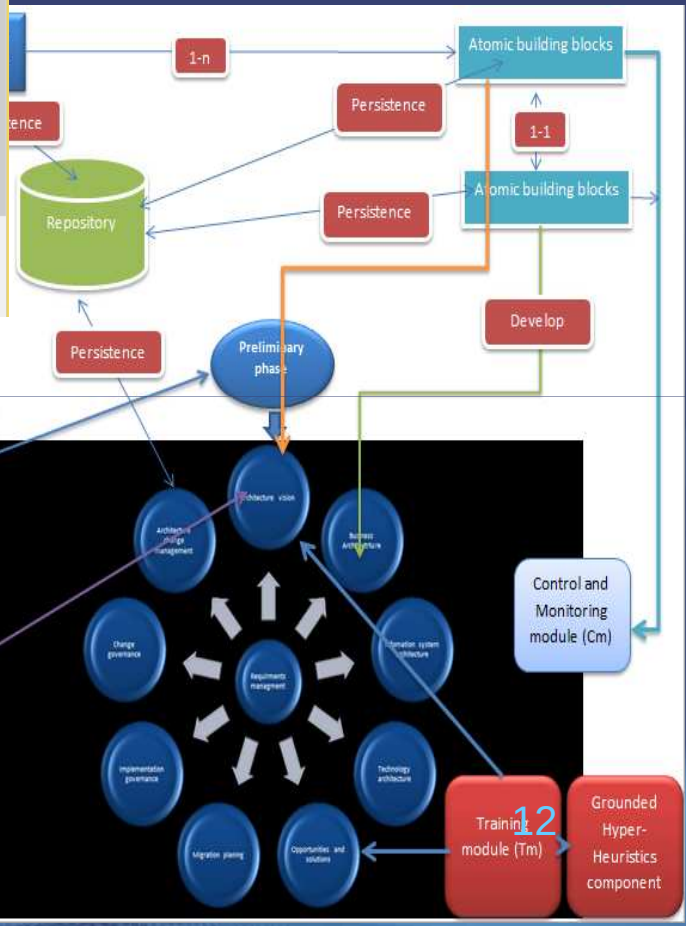


IT IS A CONCRETE FRAMEWORK…









Lead

- This research project's main keywords are: 1) Artificial Intelligence; 2) Enterprise Architecture; 3) Business Transformation Projects; 4) Business Transformation Manager; 5) Applied Mathematical Models; 6) Neural Networks; 7) Holisms; 8) Risk Management; 9) Decision Making Systems; 10) Artificial Intelligence; 11) Knowledge Management Systems; and 12) Innovation.
- Using the scholar engine, in Google's search portal, in which the authors combined the previously mentioned keywords and key topics; the results have shown clearly the uniqueness and the absolute lead of the authors' methodology, research and works .
- From this point of view and facts the authors consider their works on the mentioned topics as successful and useful; so the main topics will be introduced.
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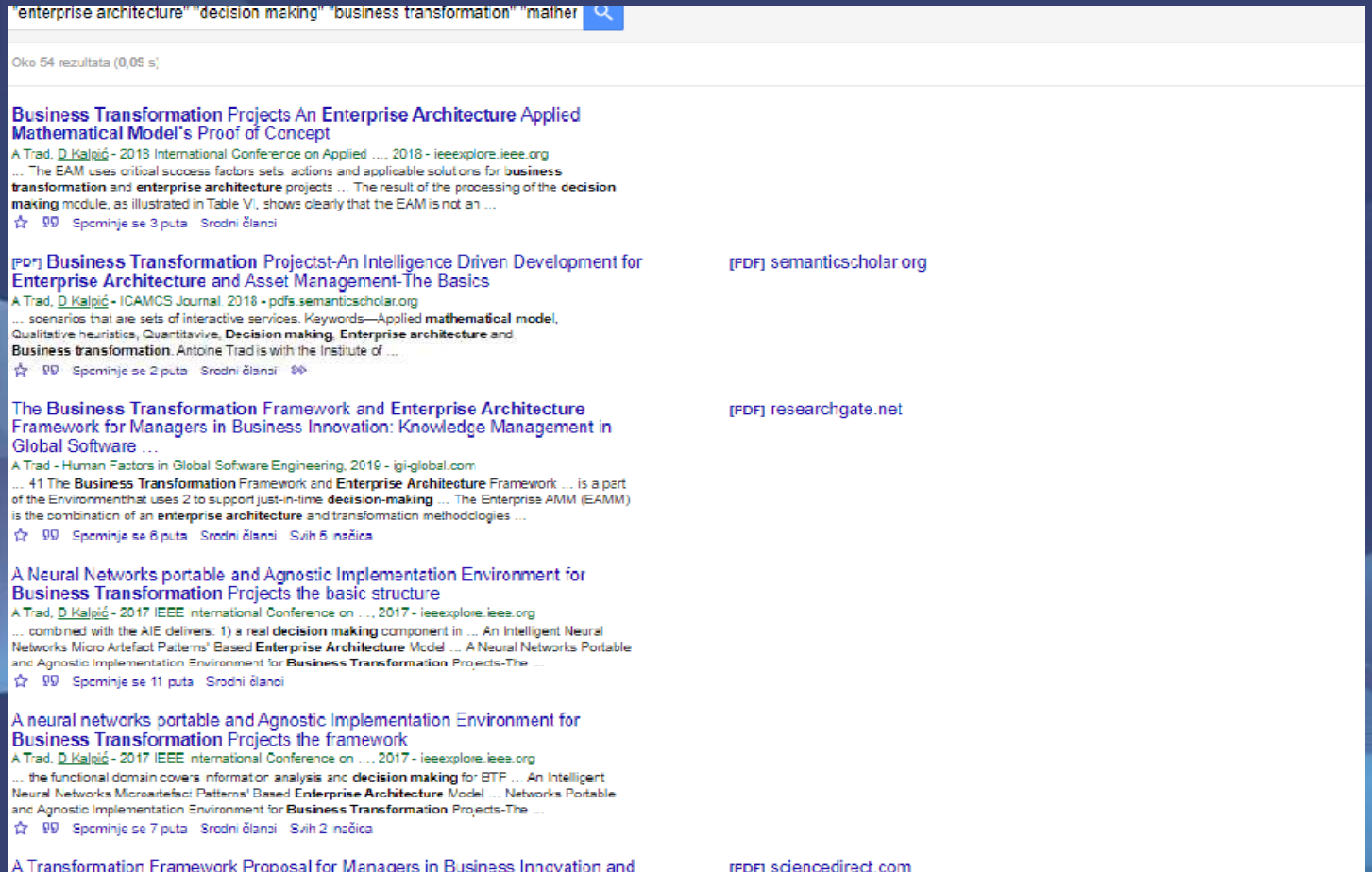


The Mathematical Model

- The applied AHMM4C's basics nomenclature: In this *Project* OR modules run on a pool of synchronized AHMM4C threads, in which, each AHMM4C thread launch's an HDT process

Basic Mathematical Model's (BMM) Nomenclature

Iteration	= An integer variable *"i"* that denotes a *Project/ADM iteration*	
microRequirement	= KPI	(B1)
CSF	= Σ KPI	(B2)
Requirement	= CSF = ⋃ microRequirement	(B3)
CSA	= Σ CSF	(B4)
microKnowledgeArtefact	= ⋃ knowledgeItem(s)	(B4)
neuron	= action->data + microKnowledgeArtefact	(B5)
microArtefact / neural network	= ⋃ neurons	(B6)
microArtefactScenario	= ⋃ microartefact	(B9)
AI/Decision Making	= ⋃ microArtefactScenario	(B10)
microEntity	= ⋃ microArtefact	(B7)
Entity or Enterprise	= ⋃ microEntity	(B8)
EnityIntelligence	= ⋃ AI/Decision Making	(B11)
BMM(*Iteration*) as an instance	= EnityIntelligence(*Iteration*)	(B12)

The Generic AHMM's Formulation

AHMM	= ⋃ ADMs + BMMs	(13)

The Role of BI/AI

- **Learning based and not data based..**
- **AI based DMS4C: AI systems management refers to expert systems and global systems modelling; which is supported by the EA's mapping concept. AI systems management is an approach for building and deploying intelligent systems and it replaces conventional concepts with DMS4C.**
- **DT based Projects replaces traditional methods …**
- **Manager as a Cross-Functional Architect / Agile Project Management / Enterprise Architecture**
- **Understanding Organizations and the CSFs that can influence their survival and competitiveness, is only the first step towards a successful Project.**

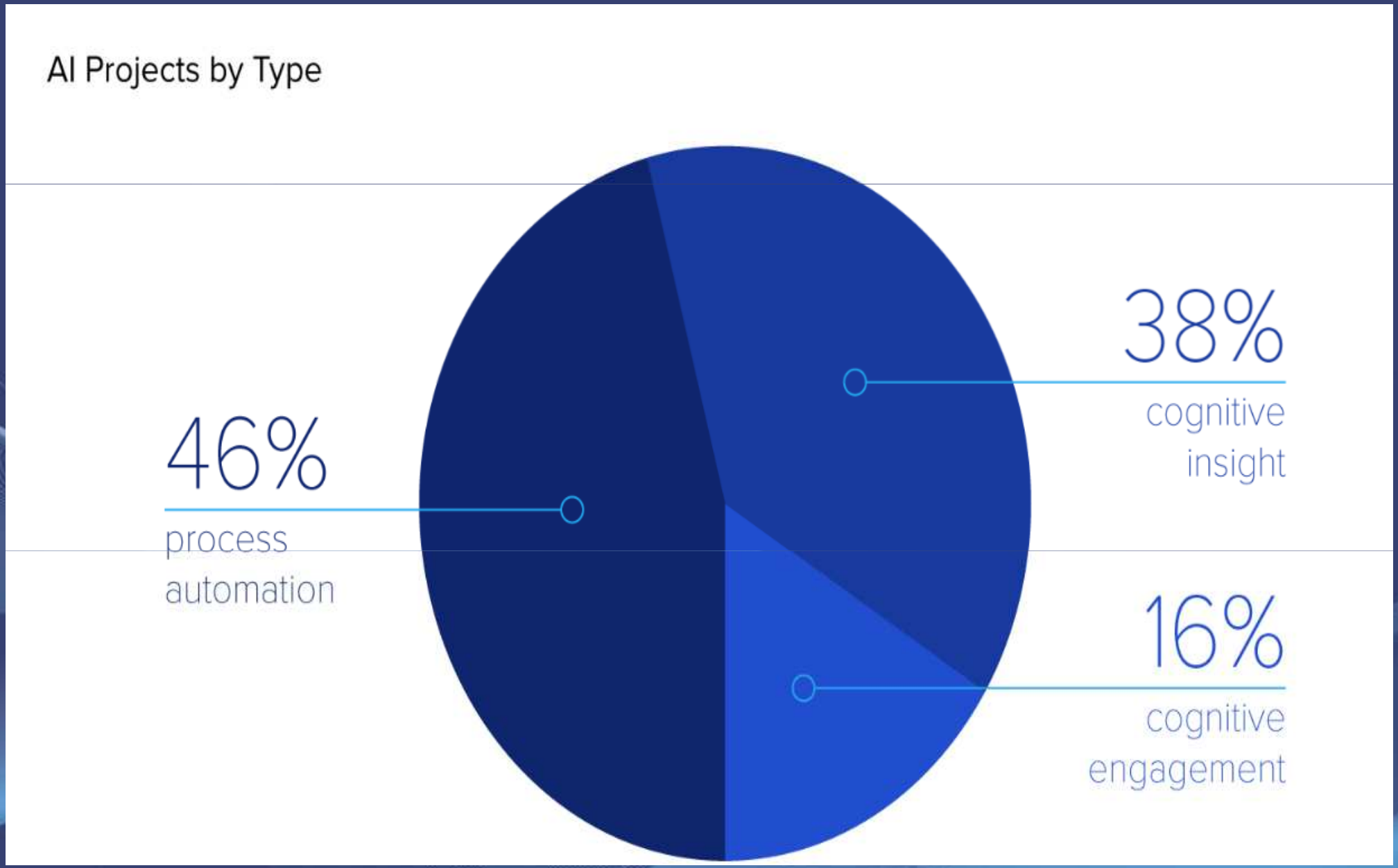
USAGE OF EA/AI based PCTP_BI

- **PCTP_BI for Projects.**
- **HDT… AR… Learning based.**
- **CBB, BBs,… Artefacts…**
- **Unit of Work as the Building Block**
- **EA, Technology, Services and Standards**
- **Enterprise Security Strategies**
- **Resources, Artefacts, Factors Management and Qualification Procedures**
- **The ADM and Phases**
- **Business Architecture**
- **A Complex and Risky Process**
- **The Knowledge Management System**
- **The Decision-Making System**

The Needed Skills… Just for EA

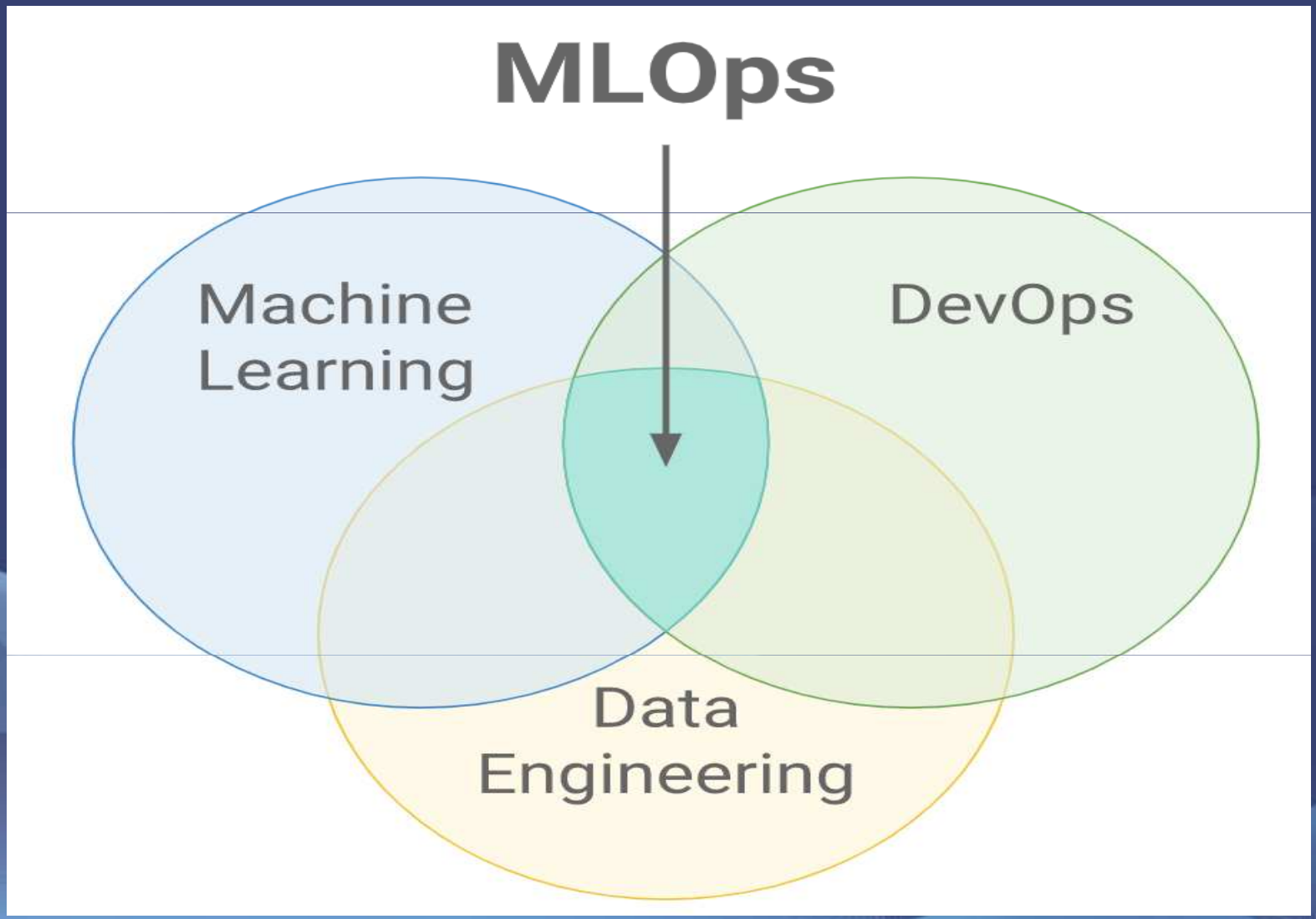
IT Architect Roles	Architecture Board Member	Architecture Sponsor	IT Architecture Manager	IT Architecture Technology	IT Architecture Data	IT Architecture Application	IT Architecture Business	Program or Project Manager	IT Designer
Enterprise Architecture Skills									
Business Modelling	2	2	4	3	3	4	4	2	2
Business Process Design	1	1	4	3	3	4	4	2	2
Role Design	2	2	4	3	3	4	4	2	2
Organization Design	2	2	4	3	3	4	4	2	2
Data Design	1	1	3	3	4	3	3	2	3
Application Design	1	1	3	3	3	4	3	2	3
Systems Integration	1	1	4	4	3	3	3	2	2
IT Industry Standards	1	1	4	4	4	4	3	2	3
Services Design	2	2	4	4	3	4	3	2	2
Architecture Principles Design	2	2	4	4	4	4	4	2	2
Architecture Views & Viewpoints Design	2	2	4	4	4	4	4	2	2
Building Block Design	1	1	4	4	4	4	4	2	3
Solutions Modelling	1	1	4	4	4	4	4	2	3
Benefits Analysis	2	2	4	4	4	4	4	4	2
Business Inter-working	3	3	4	3	3	4	4	3	1
Systems Behavior	1	1	4	4	4	4	3	3	2
Project Management	1	1	3	3	3	3	3	4	2

AI Types


AI Projects by Type
46%
process automation
38%
cognitive insight
16%
cognitive engagement

Google AI Platform

MLOps..



PCTP_BI coordination..

The PCTP_BI PoC's phase 1 outcome is 8.80

CSA Category of CSFs/KPIs	Influences transformation management	Average Result
RDP4C's Integration	Feasible	From 1 to 10. 9.60
PCP and ICS Integration	Complex	From 1 to 10. 8.50
DMS4C and KMS4C Integration	Complex	From 1 to 10. 8.60
PCTP AND PCBIS Integration	Complex	From 1 to 10. 8.60

Evaluate First Phase

Conclusion

The set of PCTP_BI's architecture, refinement, technical and managerial recommendations:

- The RDP4C is part of a series of publications related to *Projects*, AI, PCTPs and CPs and is based on mixed action model, AR/HDT, and GHH.
- where CSAs and CSFs are selected and tuned to help *Project's Managers* and architects to diminish the chances for failure when building a PCP based PCTP/PCBIS.
- In this article, the focus is on PCTP/PCBIS, where its formalism defines a structured inter-relationship of *Services*, *Scenarios*, AI/BI, PCBIS, and other *Entity's* components and resources.
- The PCBIS needs an important set of CSFs for the *Project's* decision-making capabilities and evolutions.
- The PoC was based on the CSFs' binding to a set of specific RDP4C resources and AR/HDT's reasoning engine that represents the interaction and relationships between various BI concepts, *Project's* requirements, *Services*, *Scenarios*, and CSFs.
- The result proves that an PCTP/PCBIS can supports the transformation process, but is complex to implement.