SWOT based Transformation's Organizational Risks' Management (STORM)

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The Research Question is:

Which STORM features, characteristics, and which type of Project Management Concept should be used in the implementation phase(s) of a transformation project?

Introduction

- **It concerns Polymathic-holistic Project Management Concept (PPMC)**

- **This article analyses the role of CBBs and BBs in transformation projects and proposes the Applied Holistic Mathematical Model (AHMM) for PPMC (AHMM4PPMC).**

- **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 STORM*

.

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

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

Introduction

- *The STORM supports Project's Complex Implementation Phase (PCIP) that requires a set of in-depth (Refinement) RP, DMS4PPMC, KMS4PPMC, EA, and implementation skills.*

- *The Architect of Adaptive Business Information System (AofABIS) is to be considered as the optimal choice.*
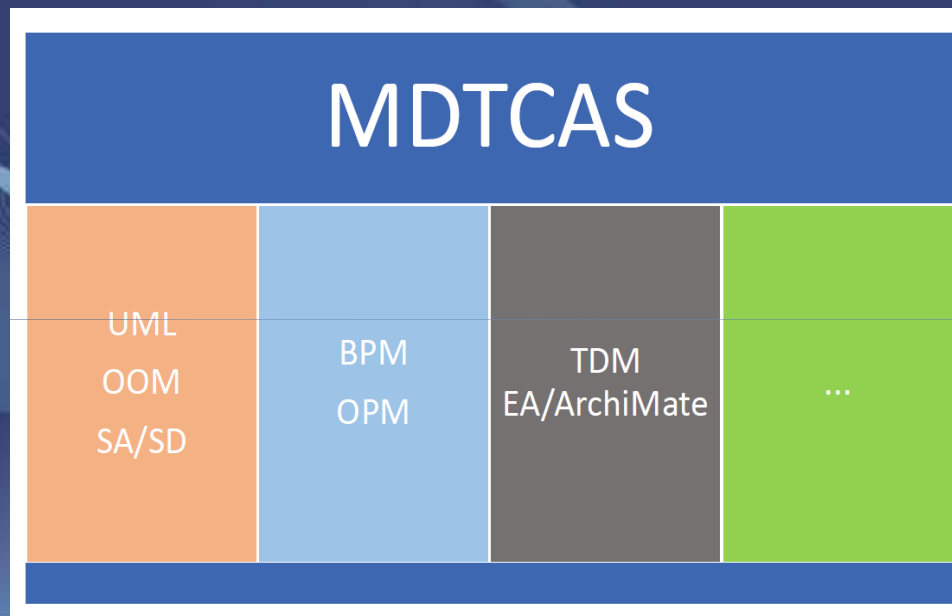
MDTCAS			
UML OOM SA/SD	BPM OPM	TDM EA/ArchiMate	...

Figure 1 describes the relation between the MDTCAS and the Project's artefacts. The Framework's and RDP's interactions, include three components: 1) DMS4PPMC; 2) KMS4PPMC; and 3) STORM.

Keywords

- STORM, SWOT, 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 generic pattern

- Risk management.
- 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

- STORM and PPMC based Management.
- 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 STORM approach

Define Vision → Establish MDTCAS → ARP/UP → CBB → OBB → OPMS/ODM → ...

A Generic STORM approach

- The goal is to attain the defined enterprise wide SWOT based processing.

- This article's aim is to influence the attitude of a transformation project and implementing of STORM.

- 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

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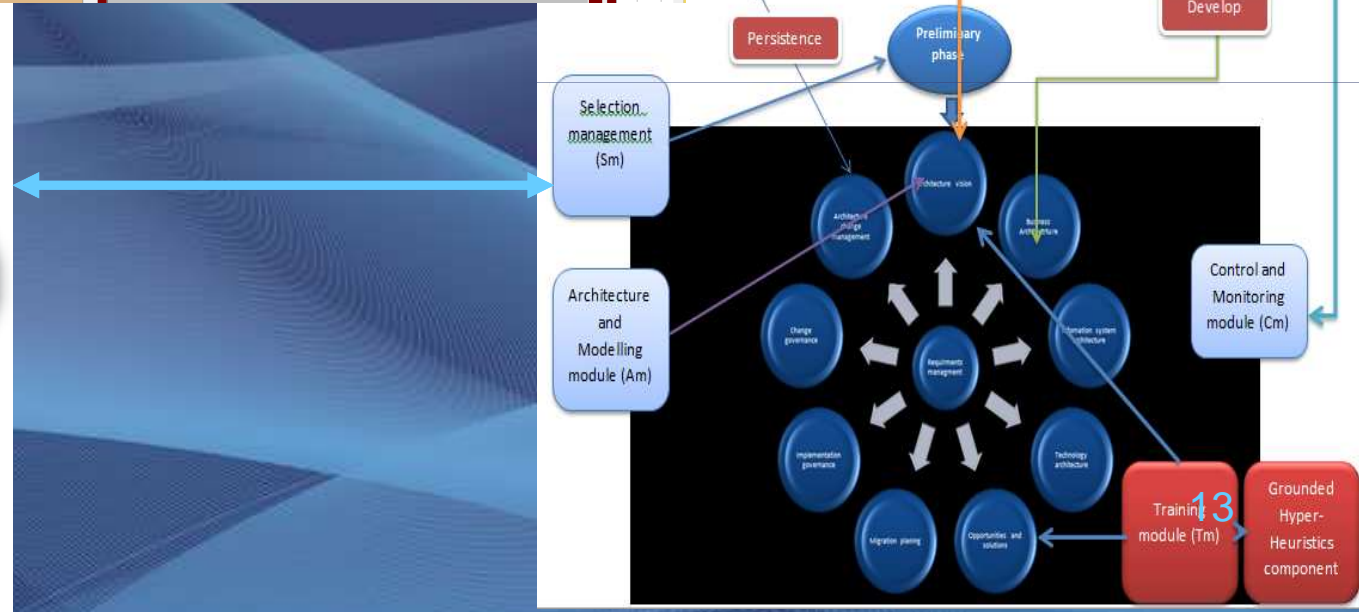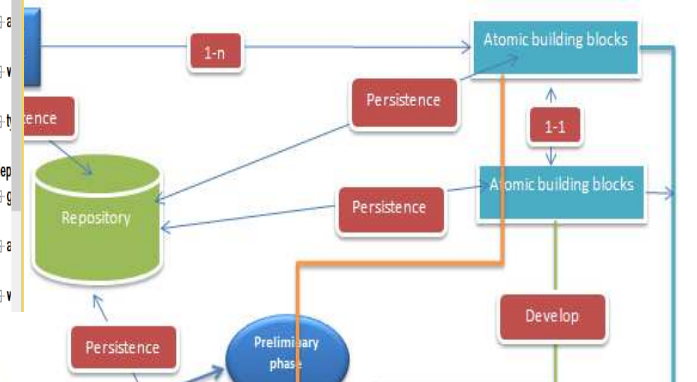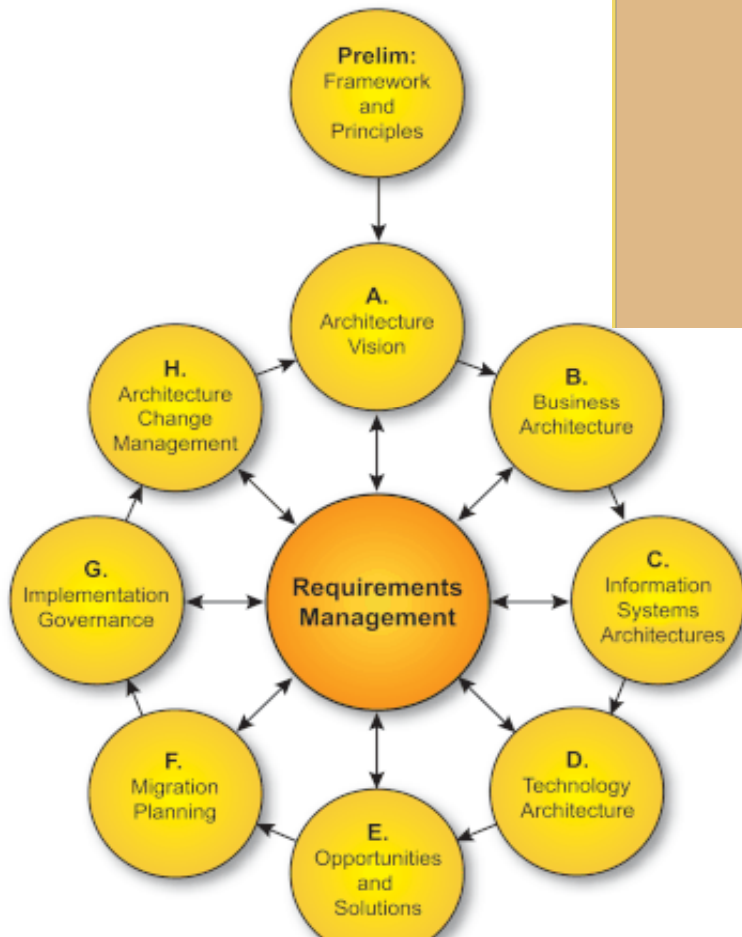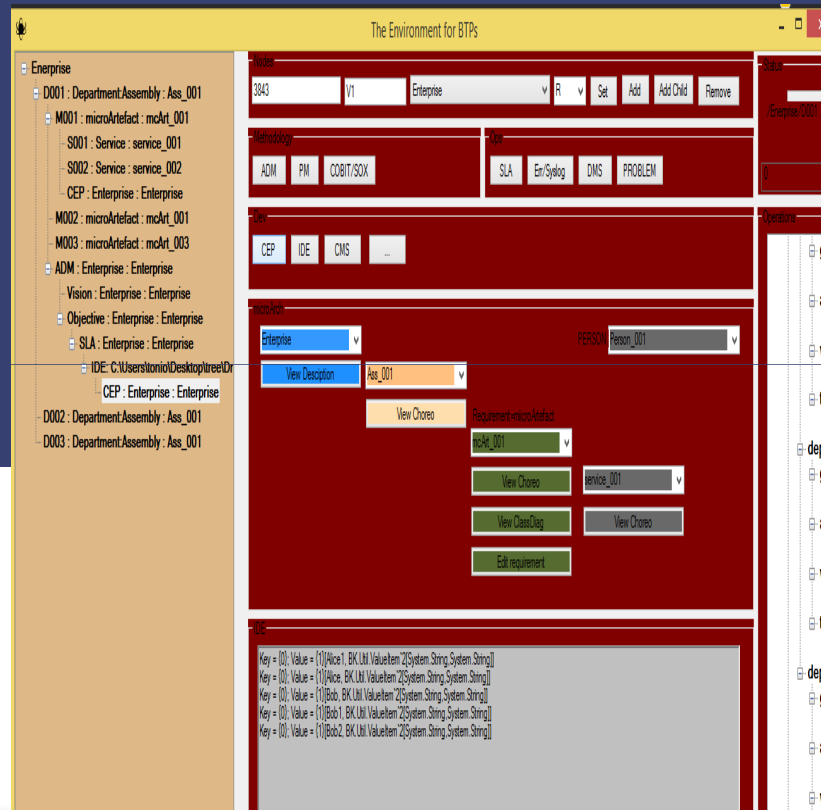**Using Applied Mathematical Models for Business Transformation**

Antoine Trad and Damir Kalpic

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.

- Using the scholar engine, in Google's scholar search where the author combined his research's keywords and key topics; the results have shown clearly the uniqueness and the absolute international lead of the author's methodology, research and works.

The Mathematical Model

- The applied AHMM4PPMC's basics nomenclature: In this *Project* OR modules run on a pool of synchronized AHMM4PPMC threads, in which, each AHMM4PPMC 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 AI

- **Learning based and not data based..**

- **AI based DMS4PPMC: 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 DMS4PPMC.**

- **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 STORM

- **STORM 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

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Linking STORM and SWOT to Factors

which can be presented as BB.VAR [49].

```
STORM2CSA
{
        S_Value           = HDT.eval( CSA.S_Value );
        W_Value           = HDT.eval( CSA.W_Value );
        O_Value           = HDT.eval( CSA.O_Value );
        T_Value           = HDT.eval( CSA.T_Value );
};
```

Linking a CSA to CSFs

CSA elements map/link to CSF by using the CSA2CSF structure:

```
CSA2CSF
{
        S_Value           = HDT.eval( CSF.S_Value );
        W_Value           = HDT.eval( CSF.W_Value );
        O_Value           = HDT.eval( CSF.O_Value );
        T_Value           = HDT.eval( CSF.T_Value );
};
```

Linking a CSF to KPIs

CSF elements map/link to KPI by using the CSF2KPI structure:

```
CSF2KPI
{
        S_Value           = HDT.eval( KPI.S_Value );
        W_Value           = HDT.eval( KPI.W_Value );
        O_Value           = HDT.eval( KPI.O_Value );
        T_Value           = HDT.eval( KPI.T_Value );
};
```

Artefacts integration for STORM

STORM Calls

Transformed ICS

API Broker

Artefacts/Abstract Service

| SOA | Microservices | Mainframe Call | Other... |

SBB(s)

| Patterns | Legacy Librairies | Factors Evaluation |
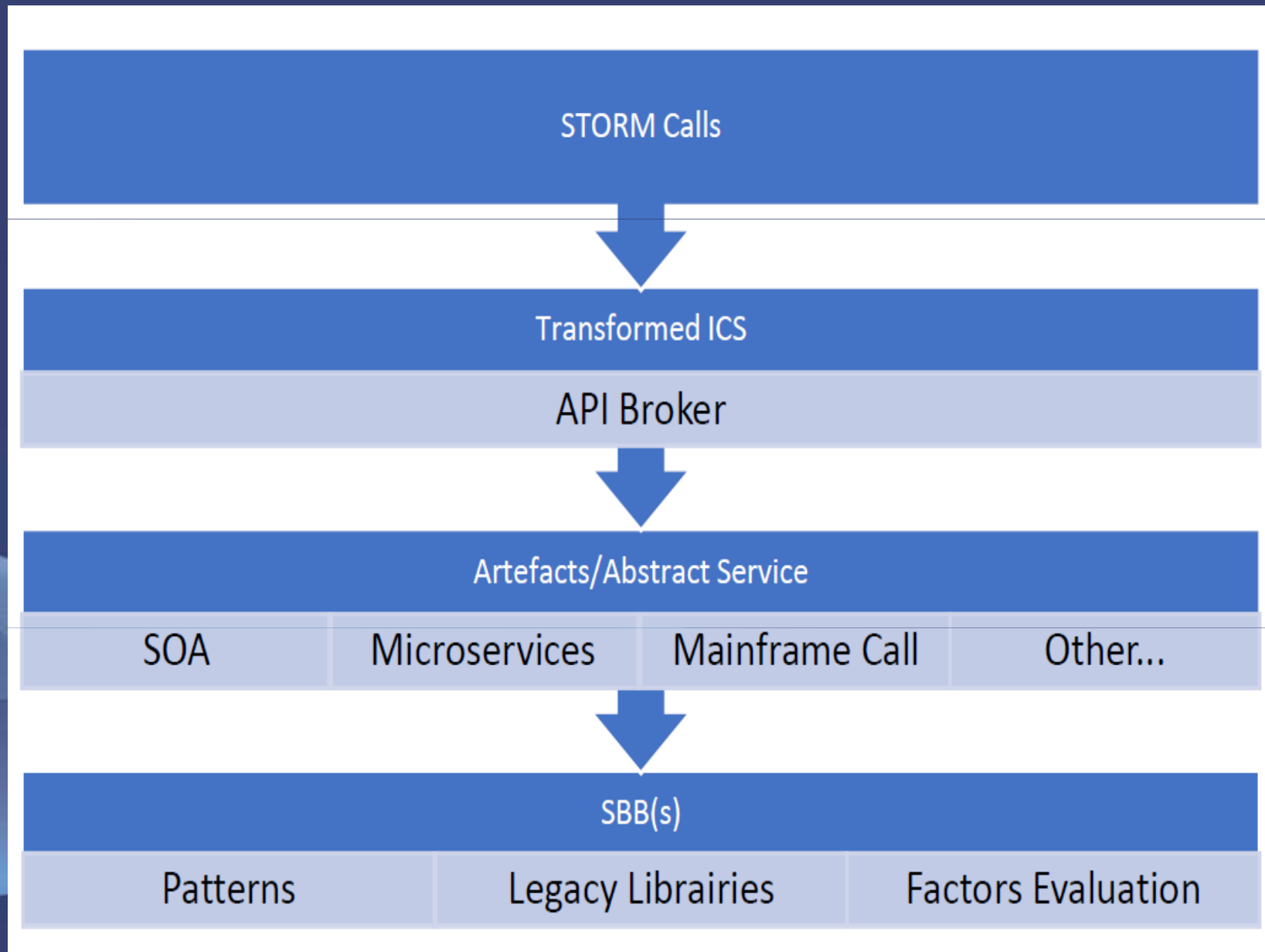
The STORM PoC's phase 1 outcome is 8.50

CSA Category of CSFs/KPIs	Transformation Capability	Average Result	Table
PPMC'S Appliance	Usable-Mature	From 1 to 10. **9.25**	1
ICS and services	Transformable-Possible-Complex	From 1 to 10. **8.30**	2
Enterprise patterns integration	Transformable-Possible-Complex	From 1 to 10. **8.20**	3
EA for STORM	Transformable-Possible-Mature	From 1 to 10. **9.0**	4
STORM based DMS	Heterogenous-VeryComplex	From 1 to 10. **8.00**	5

Evaluate First Phase

Conclusion

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

- Implement an IHI framework.
- SWOT risk analysis is a basic and a highly technical methodology that can be used to check Project's strategy.
- This chapter presents the possibility to implement an IHI STORM.
- RP is a Project's critical phase, and a Project must build a holistic MDTCAS to support the RPs activities.
- Building a flexible and scalable ICS.
- The PPMC needs to define a MDTCAS manages RP's basic elements: Artefacts. The major innovation in this article is linking of the Managers popular risk and quality management (like SWOT, Six Sigma, …) to concrete components.
- Each Entity constructs its own IHI STORM.
- The STORM replaces legacy-solutions using conversion concepts in order to ensure Project's success.
- STORM interface Entity's TDM and delivers the pool of Artefacts.

Conclusion

- **The ADM manages design, RP, DevOps, and PPMC activities.**
- **Entity's Artefacts' stability and coherence are crucial for its evolution.**
- **Avoid consulting firms and to build internal STORM.**
- **STORM's integration is very complex and will very probably face failure.**
- **PPMC and DMS4PPMC, based on pseudo-SWOT approach, which uses Factors.**
- **Gained knowledge/experience can be fed in the Entity's KMS; and that is how it builds its own STORM.**
- **The PPMC is a Model First Approach that uses a pseudo bottom-up approach.**
- **The PPMC provides a concept for classifying and using existing types of Artefacts.**
- **Using a minimal EA (for the target architecture), can support Projects to align their plans with architecture visions and STORM.**