Managing knowledge and information through KM Framework - The URA Experience

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Rishipal Singh
Senior Systems Analyst
Corporate Development Group

Knowledge Management

What is KM? (Blind men and elephant)

* tail – rope; body – wall; ear – fan

Not definite, what it means to organisation
Why URA KM Governance Framework

Objectives

- Provide common clarity of ‘What-Is-KM’ in URA
- Align KM with URA business goals (enabler)
- Consolidate & optimise KM programmes effort

URA KNOWLEDGE MANAGEMENT GOVERNANCE FRAMEWORK

Goal & strategy

Approach & Deployment

Result & Review

Managing Structure

L1 Effective Infrastructure Mgt

- Infrastructure provision & data quality
- (i) Accurate & timely information

L2 Effective Explicit Knowledge Mgt

- Strategic use of IT systems
- Use, Analysis & Access
- (ii) Able to use analyse & disseminate information effectively

L3 Effective Tacit Knowledge Mgt

- Sharing, learning and Collaboration
- (iii) Make good business decisions

L4 Effective Intelligence Mgt

- Environment scanning, intelligence research & benchmarking
- (iv) Stay ahead of the curve

Usage of KM systems / Update of KM effort to ITSC
Sharing and Learning with other agencies

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URA KM Framework

1) Goal and Strategy

* Sideline – Clarke Q, view from food court, ice-cream

KM Goals & Strategy

Our KM Goals

➢ Facilitate Strategic Planning and Decision Making
  (via Tacit Knowledge Mgt & Intelligence Mgt)

➢ Facilitate Daily Business Execution
  (via Explicit Knowledge Mgt & Infra / Data Mgt)
KM Goal & Strategy

Our KM Strategy

- Consolidate/Integrate KM related efforts
- Focus new KM initiatives on core business areas
- Adopt top-down and bottom-up approach

KM Managing Structure

- Chaired by DCEO
- Division KM activists/drivers
What **Knowledge** to Manage?

(A) Knowledge for good Product/Services

(B) Knowledge on Lands/locations

(C) Human Capital Skills, competency, Experience

(D) Intelligence operating environment

Explicit Tacit

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**URA KM Framework**

(1) Goal & Strategy

(2) Approach & Deployment

(3) Result & Review

2) Approach & Deployment

Night festival Bras Basah
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Approach and Deployment - Enterprise Knowledge Pyramid

- Intelligence Management
  - Tacit Knowledge Management
  - Explicit Knowledge Management
  - Infrastructure / Data Management

People
- High
- Medium
- Low

Process
- High
- Medium
- Low

Technology
- Low
- Medium
- High

Level 4 – Effective Intelligence Mgt

Initiatives
- Environment Analysis / Corporate Planning
- Benchmarking & comparison studies
- Sharing of overseas study trips
- Lifestyle / Public Perception Survey
- Engaging stakeholders and industry
Strategic Benchmarking

Latest global developments/competitions, place making

Benchmarking

Waterfront Development, Marina Bay

Cities with successful waterfront development
e.g. Melbourne Docklands, Sydney Foreshore, Brisbane Southbank
Benchmarking - Sharing and coding
Share at management and staff forums
Document learning/knowledge in Uranium for reuse

Level 3 – Effective Tacit Knowledge Mgt

KM initiatives
- Online Planners’ Club COP forum
- Common Policy & Procedures System
- Learning Days
- Staff seminar / POWER session
- After Action Review for key projects
- Review forums
- Project websites

* Tacit – store in people, not easily extracted
Example – Planners’ Club

Online COP forum (6 year old) to facilitate learning on planning.
Members are kept informed of latest planning related news locally /globally.

Example – Learning Days

Division /Departments level monthly / bi-monthly.
Informal, mingle, learn and share, foster open culture.
Example – Learning Days

knowledge stored in Uranium for future search and retrieval

Level 2 – Effective Explicit Knowledge Mgt

(1) Extensive use of IT systems
(2) Facilitate use & Analysis of Information

Initiatives
- Enterprise content management / e-registry (eKRS)
- Uranium / Project websites
- Integrated Planning & Land Use System (iPLAN)
- Various Integrated systems (Enterprise Customer Information System, Business Intelligence)
Extensive Strategic IT Systems

- More than 20 enterprise integrated IT systems
- Facilitate strategic information and knowledge management

* Many international, local award winning systems

EKRIS – support decision making

iPLAN – operation management analysis

CIS – customer management analysis

Example – eKRIS System

- One-stop enterprise content management system (since 2000)
- Organisation-wide deployment
- Use “Artificial Intelligence” in document profiling – 1st in the industry

Electronic Knowledge Repository Information System (eKRIS)

eKRIS Project Team
Example – iPLAN System

- Comprehensive & advanced use of Geographical Information System (GIS)
- More than 150 spatial layers
- Advanced GIS functions for master plan, urban design plan

Example – Uranium (Intranet)

One-stop gateway for
- various knowledge portals
- Sharing & learning
- Management and staff engagement
- e-services

* Central portals for various KM levels
Level 1 – Effective Infrastructure Mgt

- (1) Integrated Infrastructure
- (2) Quality Data / information
- (3) Good Data Exchange (external)

KM initiatives
- Enterprise Integrated systems
- Corporate Taxonomy
- ISO certification / QC
- Data Administration
- Online data exchange

Example-Integrated Information Architecture

To Make Singapore a Great City to Live, Work and Play in

[Diagrams showing various databases and information systems]
Example – Quality Management System

QC/QA processes for information quality (ISO9001)
Strong foundations: Information audit, disaster recovery, IP, data privacy, Info security, taxonomy, data administration

URA KM Framework

3) Results & Review

* Sideline – southern ridges, Henderson wave, Alexandra Arch
Facilitate strategic planning / decision making
- Able to stay ahead of the curve
- Make good business decision

Facilitate daily business operations
- Able to use, analyse and access information effectively
- Maintain quality data and IT infrastructure

Monitor progress checkers
- KM usage, user surveys, feedback, benchmarks
  - eKISR – steady increase in usage
  - URAnium – visited by every staff daily
  - CIS – capture all customer feedback

Monitor at steering committee
- Half yearly

Share & learn with others
- Shared with more than 15 agencies
### Result and Review

#### 3-Year KM Roadmap

**Stage 1: Initial**
- **Time Frame:** Before FY 02
- **Key KM Projects:** Various sharing, learning forums, various IT systems
- **Outcomes:** Various KM projects

**Stage 2: Repeat**
- **Time Frame:** FY 02 – 04
- **Key KM Projects:** Various sharing, learning forums, various IT systems
- **Outcomes:** Various KM projects

**Stage 3: Define**
- **Time Frame:** FY 05 – FY 08
- **Key KM Projects:** Learning day, Enterprise URA, KM Committee, Information review, Integrated IT infrastructure
- **Outcomes:** Various KM projects

**Stage 4: Optimise**
- **Time Frame:** FY 09 – FY 10
- **Key KM Projects:** Various sharing, learning forums, various IT systems
- **Outcomes:** Various KM projects

**Stage 5: Innovate**
- **Time Frame:** After FY 10
- **Key KM Projects:** Various sharing, learning forums, various IT systems
- **Outcomes:** Various KM projects

#### URA KNOWLEDGE MANAGEMENT GOVERNANCE FRAMEWORK

**L1 Effective Infrastructure Mgt**
- Focus on infrastructure provision & quality of data
  - (i) Accurate & timely information

**L2 Effective Explicit Knowledge Mgt**
- Focus on use of IT systems to facilitate identification, use, analysis & accessibility of info
  - (ii) Able to identify, use, analyse & disseminate information effectively

**L3 Effective Tacit Knowledge Mgt**
- Focus on sharing, learning and collaboration
  - (iii) Make good business decisions

**L4 Effective Intelligence Mgt**
- Focus on environment scanning, intelligence research & benchmarking
  - (iv) Stay ahead of the curve

#### APQC KM Maturity Model

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Initial</td>
</tr>
<tr>
<td>2</td>
<td>Repeat</td>
</tr>
<tr>
<td>3</td>
<td>Define</td>
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<tr>
<td>4</td>
<td>Optimise</td>
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<tr>
<td>5</td>
<td>Innovate</td>
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**KM Pyramid Categories**

<table>
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<th>KM Programmes</th>
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<tbody>
<tr>
<td>4.1 (Social Intelligence)</td>
<td>4. Conduct Public Perception Survey</td>
</tr>
<tr>
<td>4.2 (Customer Intelligence)</td>
<td>4.2 Conduct Direct Customer Feedback Survey</td>
</tr>
</tbody>
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**Key KM Projects**

- Various KM projects
- Learning day, Enterprise URA, KM Committee, Information review, Integrated IT infrastructure

**Usage of KM systems / Update of KM effort to ITSC**

**Sharing and Learning with other agencies**

**Guiding Policy & Guideline**

- SQA Criteria 3
- IMISD – Info Admin

**Approach & Deployment**

**Goal & Strategy**

- Focus on environment scanning, intelligence research & benchmarking
- Focus new KM initiatives on core business areas
- Adopt top-down and bottom-up approach

**Managing Structure**

- ITSC
- CUDD
- CDD
- PPD
- DCD
- LAD

**Usage of KM systems / Update of KM effort to ITSC**

**Sharing and Learning with other agencies**
Summary

- **Need not start from zero base**
  - Many ad-hoc KM existed

- **Create common clarity of KM**
  - Align KM with business

- **KM is a journey, not destination**
  - Keep trying; some may not work

- **Communicate to business as business, not as KM**
  - Customise messages to groups