Knowledge Engineering for Corporate Householding

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Total Data Quality Management (TDQM) Program
Massachusetts Institute of Technology
A Candidate Software Architecture for Corporate Householding

Step 1: CH query

Step 2.1: CHE result

Step 2.2: Query Series

Step 3: final result

Corporate Householding Query Processor

CHQP

Corporate Householding Engine

Target Databases

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Corporate Householding Engine

- Software capturing corporate householding knowledge
- Knowledge to be acquired systematically through interviews, surveys, in-depth case studies, and literature reviews,
Global Agricultural Company (GAC) Case Study

• Evaluate the importance of Corporate Householding in business
• Investigate the current practice of Corporate Householding
• Determine research directions
Questions I

• Corporate Householding Definition at your organization
  – What does Corporate Householding mean to your organization?
  – In the area of supply chain management optimization, what does Corporate Householding mean in terms of both vendors and customers?
  – Can you give us a specific example for each?
Questions II

• Importance of Corporate Householding at your organization
  – How do you evaluate the importance of corporate householding at your organization? Why?
  – What benefits does your organization get from practicing corporate householding?
  – What are the costs?
  – Do employees have to deal with corporate householding problems frequently in their routine works? Please tell us an example.
Questions III

- Current Corporate Householding Practice at your organization
  - In which areas does your organization practice Corporate Householding?
  - How does your organization practice Corporate Householding?
  - Is it done automatically with the help of software? If yes, is the result satisfying?
  - Do human experts do it? If yes, why can’t it be done with software?
  - If both do, what percentage of the problems involve human experts? What are the examples of the problems that need to involve human experts?
  - Does your organization have a department/workgroup/designated employee that focus on corporate householding? If the work is distributed, how are the works by different parties coordinated?
  - What are the sources for corporate householding knowledge at your organization?
  - What’s the role of D&B data in corporate householding in your organization? Is it the most important knowledge source, or just one of many sources?
Questions IV

• Rules for Corporate Householding at your organization
  – What are the rules your organization uses to decide corporate householding?
  – How does your organization get the rules?
  – Are there any procedures to generate, approve, and maintain the rules?
Questions V

• Assessment of Corporate Householding at your organization
  – How do you evaluate the current status of corporate householding practice in your organization?
  – What are the key obstacles that hinder your organization’s ability to practice corporate householding?
  – In your opinion, how can it be improved?
Findings: Role and Importance

• Relationships between Firms that GAC does business with
  – direct ownership
  – distributors
  – franchises

• Benefits:
  – Greater ability to negotiate discounts with suppliers.
  – Greater ability to understand our customer base and answer basic questions such as who are our top customers.

• Applications
  – studying potential acquisition targets,
  – key customer visits
  – supplier negotiations
  – strategic analysis
Findings: Current practices

• Based on D&B family tree
• Enhanced with customized technology
  – Vality’s matching technology
• Involves central manual process
  – a centralized operations team that matches to D&B’s data, reviews key customer and supplier hierarchies, and coordinates resolution of issues with D&B.
• Local practice
  – Purchasing, sales, and marketing all have pockets of knowledge about specific companies they do business with.
Findings: Technology needs to be improved

• Scope:
  – To capture various relationships

• Specificity:
  – To satisfy local requirements

• Flexibility:
  – To reflect the dynamic business environment
Next Step

• More interviews/surveys
  – identify the sources of corporate householding knowledge

• Knowledge engineering
  – Capture corporate householding knowledge and represent it in appropriate formats

• Prototype development
  – test of idea