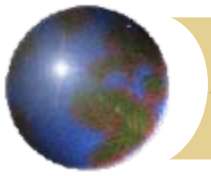


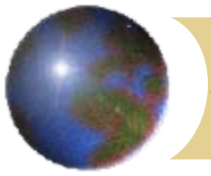
*The Organisation of
Electronic Documents in
Small, Medium and Micro
Enterprises (SMMEs)*

Martin van der Walt
Information Science, Stellenbosch University
INFORUM 2006



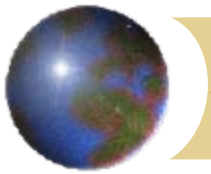
Overview

- Context & Concepts
- Problem & Solution
- Research methodology
- Some results
 - Business-critical information
 - Features of existing folder systems
- The proposed classification scheme
- Conclusion



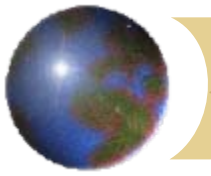
Organisation of documents

- Creation of retrieval tools
 - Indexes, catalogues, search engines
 - Free software: e.g. Google Desktop Search, Copernic Desktop Search, FreeFind
- Arrangement of the physical documents themselves in organised collections
 - retrieval by browsing



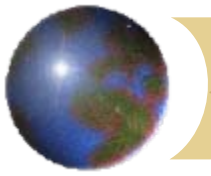
Electronic business documents

- Internally created office documents
 - Text docs (letters, memos, reports, minutes)
 - Spreadsheets
 - Image/sound/multimedia files
 - Database files (customers, finance, staff)
- Email messages sent & received
+ attachments (various formats)
- Internet resources: addresses (favorites)
+ downloads (various formats)



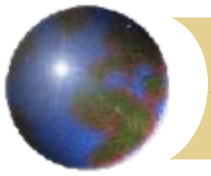
SMMEs

- Title: SMME - actual focus: Small & Micro
- In SA that means enterprises with max 49 staff & R25 (€3.2) million annual turnover
- Europe: max 49 staff & €7 million annual turnover
- USA: max 500 staff (manufacturing) / \$6 million (non-manufacturing)
- SMMEs a global phenomenon – role in the “global information society and economy”



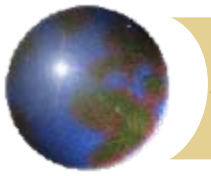
Organization of e-Docs in SMMEs

- Folders for office documents
 - Personal computers
 - Network servers
 - Document management systems
- Folders/Labels for e-mail messages
- Folders for favorites (bookmarks)
- Search engines for personal computers & intranets
- Metadata in documents (file properties) – to enhance keyword searching



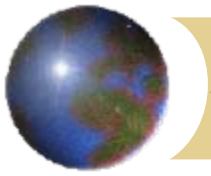
Problem

- Windows & Office programs give no guidance regarding structure of folder systems or categories to be used as document properties
- Literature on info organization also gives no guidance relating specifically to SMMEs
- Staff in SMMEs design idiosyncratic systems full of inconsistencies →
- Retrieval of documents become a nightmare, especially when a staff member leaves the business or is absent for some time



Solution

- A **classification scheme** tailored to the information organization needs of SMMEs
- Scheme is primarily intended for use in folder systems & assigning metadata categories for electronic business documents
- Also for more sophisticated (and expensive) systems such as directories in corporate portals
- **Business processes** and related business concepts should feature prominently in the scheme



Business processes (Alter, 1996)

Processes requiring coordinated work from many functional areas

Production
(Operations)

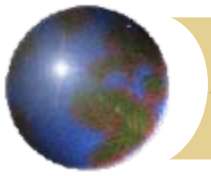
Marketing
& Sales

Engineering
(R&D)

Accounting
& Finance

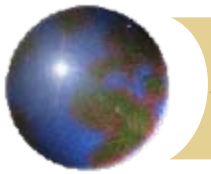
Human
resources

Subprocesses and activities occurring in all functional areas



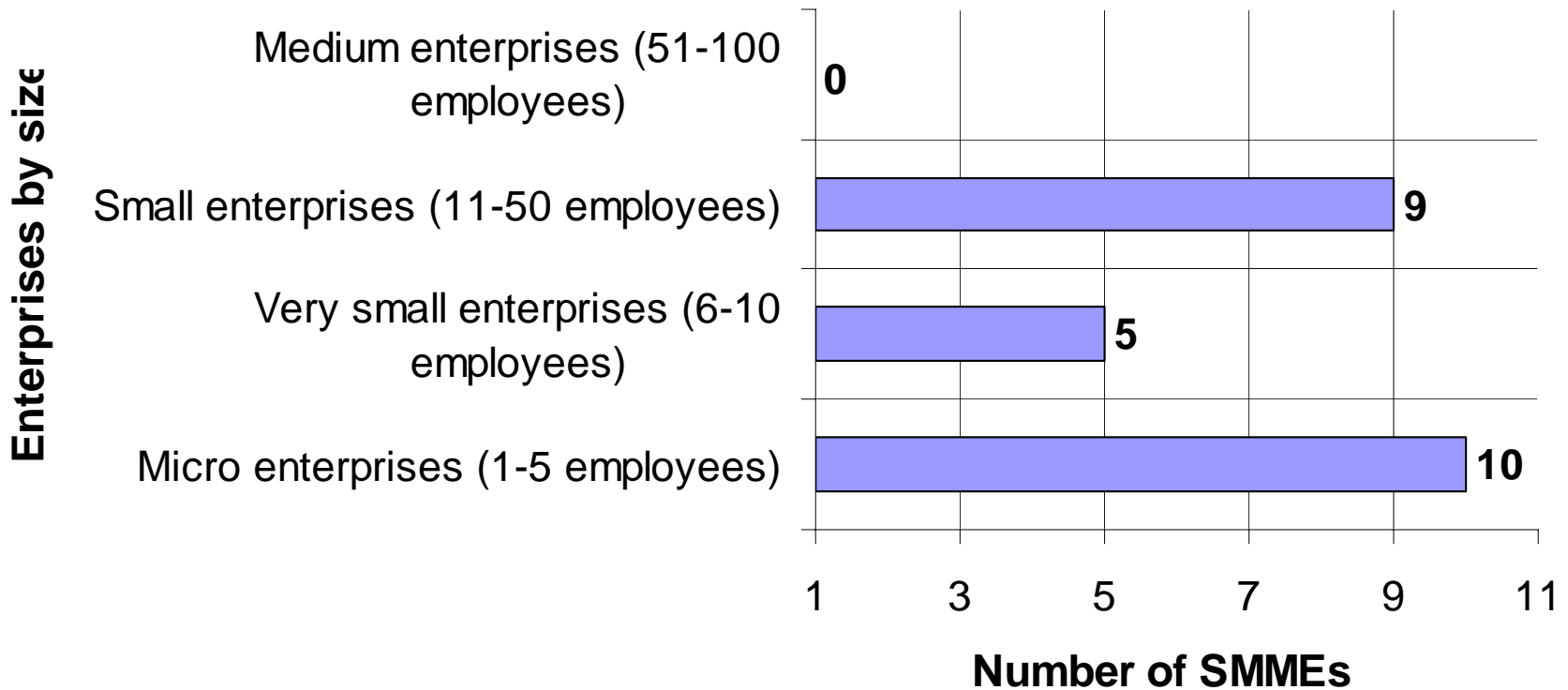
Methodology

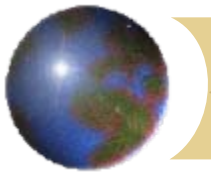
- Gathered concepts from the literature
 - Information organization
 - Information systems (internal info)
 - Competitive intelligence & business info (external)
- Survey and case studies of SMMEs in SA
 - 24 small & micro enterprises in 3 provinces
 - Structured interviews with managers
 - Collected concepts from folder systems
- Application of faceted classification principles



Businesses by size

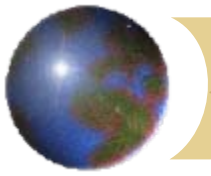
Categorization of enterprises by size





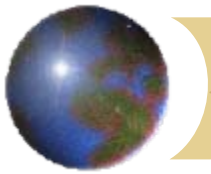
Businesses by type

- Variety of business types → generic scheme
architect, auditor, law firm, butchery,
computer shop/Internet café (2),
graphical design company (2),
stationery and gift shop, independent newspaper,
school, training company (2),
furniture store (3), florist, nursery, gymnasium,
roof construction company, electrician,
paint store, timber merchant,
company that sells pumping equipment



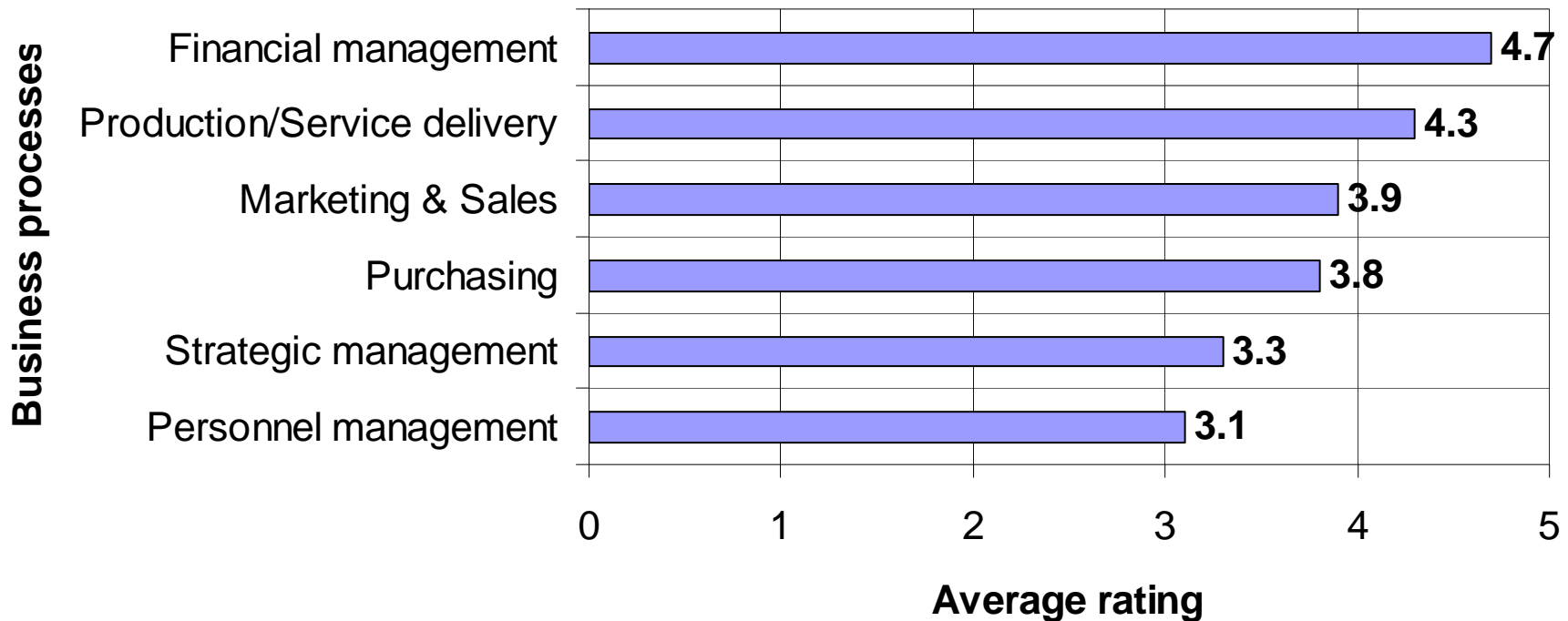
Main research questions

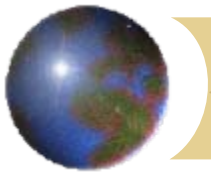
- What information is regarded as business-critical in small enterprises?
- What is the current situation with regard to information organisation and retrieval systems and practices in the businesses, especially with regard to folder systems?



Business-critical information

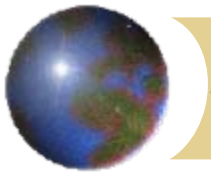
Importance of information for major business processes





Features of existing folder systems

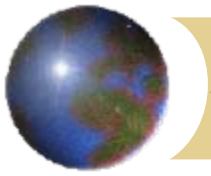
- Many of the concepts in folder names can be related to **business processes**
 - especially **finance** and **customers**
- Many folders relate to **document types**
- Folders are often named after **persons** (creator, typist)
- Folders relating to **computer programs**
- Hierarchical subdivisions – mainly instance relationship
 - E.g. Churches\Name of specific church
- Syntactical subdivisions – inconsistent citation orders
 - Quotes\Churches; Company name\Advertisements
- Alphabetical arrangement at all levels – no notation



Proposed classification – main classes

- 0 General documents (= document types/forms)
(use to subdivide other classes)
- 1 External environment
- 2 Management (General) – all processes not in 3-7
- 3 Finance
- 4 Human resources
- 5 Products & Services
- 6 Marketing & Sales
- 7 Customers
- 8 Special collections (e.g. project documentation)
- 9 Other subjects

Classes relating to specific
business processes



0 General documents

Annual reports

Correspondence

Databases (general enterprise-wide databases)

Journals (use for external journals and magazines)

Maps

Meetings: minutes and agendas

Newsletters/Bulletins (internal)

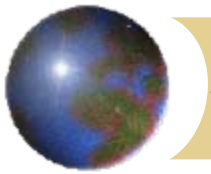
Newspapers

Pictures (including company logo, clipart, graphics)

Policies and procedures (use for company-wide manuals)

Reports (see also Annual reports)

Templates - use for internally produced document templates (e.g. company stationery)



1 External environment

Competitors

Consumer associations

Ecological issues (pollution, climate, global warming, etc.)

Economic issues (exchange rates, inflation, tourism, etc.)

Government (laws, regulations, policies)

Industry/Trade Associations

Labour unions

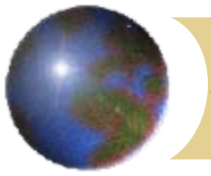
Market analyses

Political issues (elections, human rights, political parties, etc.)

Social & cultural issues (changing demographics, customs, religion, etc.)

Suppliers/Service providers

Technology (IT trends, new production technology, etc.)



2 Management (General)

Customer relationship management (class in 7)

Financial management (class in 3)

Human resources management (class in 4)

Information (& knowledge) management

Marketing management (class in 6)

Mergers & acquisitions

Physical resources management

Production management (class in 5)

Public relations management

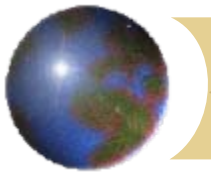
Quality management

Restructuring

Risk management (emergency planning, security, etc.)

Sales management (class in 6)

Strategic planning (business plans, mission statements)



6 Marketing & Sales

After-sales service

Delivery notes

Market research reports (internal)

Order forms

Price lists (prices/fees of the company's own products/services)

Product descriptions (catalogues)

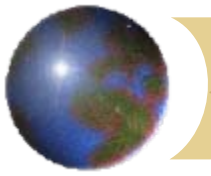
Promotions (marketing plans, campaigns, sales promotions)

Publicity materials (advertisements, information sheets & brochures, newsletters)

Sales figures/reports

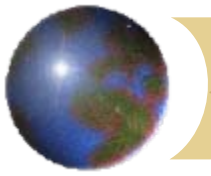
Sales representatives reports – subdivide by name

Tenders



Features and principles of the scheme

- Business process concepts form the core
- Faceted structure – only partly (at top level)
- Notation only at top level (0-9)
- Alphabetical arrangement at lower levels
- Citation order:
Business process—Document type
- Filing order – inversion of citation order
- Specificity – two levels below main classes
 - Instructions for further subdivision are given



Conclusion

- It has proved possible to relate the business information needs and the concepts in actual folder systems found in the selected small enterprises to business processes.
- These business processes were used to successfully construct a classification scheme for the organization of electronic business documentation.
- The universality of the business processes should ensure the applicability of the scheme in enterprises in all countries (not limited to SA).