

Content Analysis

Content Analysis is a technique for identifying the focus of a piece of text. In a sense, Content Analysis is much like a search engine on the internet. A word or term (or whole series of words and terms) is specified and then either the incidence of the specified words is tallied or the space dedicated to the word or term is measured.

This can be revealing. For example, Book A contains 150 incidences of the word “Jungle” and 0 incidences of the word “Martian”, whereas Book B contains 0 incidences of the word “Jungle” and 248 incidences of the word ‘Martian’. As “Martian” is a highly specific term with limited ‘everyday’ application, it is possible to speculate that Book B is either a work of Science Fiction or concerns Astronomy in some manner. With this very simple form of Content Analysis, it is evident which book is Rudyard Kipling’s Jungle Book, and which is HG Wells’ War of the Worlds.

The various techniques applied in Content Analysis have been used in a wide range of disciplines ranging from Sociology, Psychology, History, Literature, and Political Science - to name but a few.

Throughout this project, the Project Team has been able to draw on the considerable experience of Dr Susan Howard, Dr Bruce Johnston, and Professor Guersen from the University of South Australia and Dr Ruth Renschler from Deakin University.

It was initially planned that Content Analysis software called N6 (which is produced by QSR International) would be used for assessing the incidence of words and concepts within the WSB Top Management Reports (TMRs). As the research progressed, it was decided that the Project Team’s needs would be better served with a simple spatial assessment.

This determination was made due to three main issues; the complexity of using N6, data format compatibility, and finally simply because there appeared to be little advantage in using it.

The complexities inherent in configuring N6 stem from the need to be able to comprehensively define what language to ‘look for’. When a number of large, contextually similar documents need to be examined, N6 is very useful. The requirements of this project meant that documents to be assessed were comparatively short and from a wide range of organisations. Further, the information being categorised fell into 10 broad categories with over 60 subcategories.

There was also considerable difficulty in obtaining TMRs in an electronic format fully compatible with the software. Most of the readily available documents were Adobe Acrobat (more commonly known as “pdf”) files and while able to process Acrobat text, difficulties were encountered when documents were stored as Acrobat format graphics.

Researchers using content analysis generally follow Krippendorff’s method (Krippendorff, 1980) which requires the systematic evaluative techniques of the written language. Content analysis is a quantitatively oriented technique by which standardised measurements are applied to metrically

Content Categories & Elements for Content Analysis of Irrigation WSBs

Water Content & ESD	Non Water	Headings
Community/Stakeholder Consultation	Complaint – Govt. Policy (Non-Water)	Headings
Complaint – Govt. Policy (Water)	Conservation Projects (non Water)	
Conservation Projects (Water)	Impacting litigation – Not Water	Staff
Corporate Social responsibility	Infrastructure – Maint. (Non-Water)	Internal workplace culture
Current water sources	Infrastructure – New (Non-Water)	Staff
Demand Management - Current	Local Events (Non-Water)	
Demand Management - Future	Non-Water related projects/initiatives	Governance
Environment Plan	Praise – Govt. Policy (Non-Water)	Board of Management or Committees
ESD	Property Development levels	Meetings of Board or Committees
Global water issues	Regional Development	Reports on other side of business
Impacting litigation - Water		Review of policies
Infrastructure – Maint. (Water)	Acknowledgements & Graphics	Structure of WSB
Infrastructure – New (Water)	Acknowledgements	
Internal or External audit process	Awards from or to WSB	Current Drought
Investigation of other water	Biographies	Current Drought
Praise – Govt. Policy (Water)	Introduction	
Reducing greenhouse gas	Signature or identifying photo	Mission / Vision
Sustainability & water cycle strategy	This Document	Total Mission and or Vision
Sustainable policy unit	Visiting Dignitaries	
Water Allocation		Elections / Profits
Water Conservation - Agricultural	Customers	Elections
Water Conservation - Other	Aboriginal & Torres Strait Islanders	Impact of litigation
Water reuse or Grey water	Community Education	Other financial details
Water sales	Customer billing	Plans for the future
Water Technology	Customer satisfaction	Profit or Budget Surplus
	Customers	

defined units of text and these are used to characterise and compare documents. (Manning P and B Cullum-swan, 1994).

The SustainAbility Reporter 2003 for the UK recommends that printed reports be assessed to determine if the type of information and quality of information is responsive to stakeholder needs. The Content Analysis of the disclosures of the WSBs in the CEO and MD reports is undertaken in order to see what the organization is reporting to stakeholders. (SustainAbility, 2003)

The judgment as to whether this is good or bad or sufficient is for the stakeholders themselves. The premise is that stakeholders need to be able to access information to inform their discussions with the organization. The goal of sustainability reporting is akin to accounting to society (SustainAbility 2003).

SustainAbility defines a “Top Management Statement” as being a letter to the reader at the beginning of the Annual Report from the CEO or Chairman or both. SustainAbility suggests that these statements and any ‘highlights’ or ‘key indicators’ sections within the report should be evaluated.

The process was to use conceptual content analysis (Palmquist Carley and Dale 1997) of the Top Management Reports of the CEO’S and Chairpersons of all businesses providing irrigation water. The TMR was defined to include all of the narrative in the Chairman of the Board’s report, the CEO’S report and the “Highlights of the Year”. Some literature suggests that many customers of businesses only read the TMR (Unerman, 2000) but others such as regulators will read it all.

The focus was on determining what material was presented in the TMR of the Annual Reports on the assumption that Senior Management will express what they perceive to be positive, compelling, and laudable in the reports that are written for their businesses’ stakeholders and shareholders (Unerman, 2000). The assumption is that the quantity of the disclosures within a given category signifies the Senior Management’s perception of the relative importance of the category and this is fundamental to all of these studies (Deegan and Rankin 1996).

All annual reports were measured and all were on paper 21 cm by 29.7 cm. All pages totalled 600 cm². All text and blank spaces were measured. Photos were only included in the text space if they were captioned and referred to in the text. All other photos were defined as decorative and listed accordingly.

In the course of conducting the content Analysis of 191 of the 333 estimated Water Supply Businesses in Australia, information about the individual WSBs was collected. The focus of this data was to facilitate the illustration of the differing operational characteristics of WSBs associated with their specific Corporate Governance Typology.

As WSBs are held to the widely differing public reporting requirements depending on their locale, size, and corporate structure, some of the data sought is either not publicly available or - in many instances – even recorded by the WSB in question.

WSB	This is the name of the Water Supply Business
Number of pages in TMR	This is the number of pages of Top Management Reports That were content analysed.
State	This is the State where the WSB is situated
IrrigationUsers	This is the number of Customers that the WSB has listed as using their water for Irrigation
DomesticUsers	This is the number of Customers that the WSB has listed as using their water for domestic or residential purposes
IndustryUsers	This is the number of Customers that the WSB has listed as using their water for Industrial purposes
OtherUsers	This is the number of Customers that the WSB has listed as using their water for purposes other than Irrigation, Domestic or Industry
Total Users	This is the total number of account holders identified by the WSB
Irrigation Volume	This is the amount of water used for Irrigation purposes
Domestic Volume	This is the amount of water used for Domestic purposes

Industry Volume	This is the amount of water used for Industrial purposes
Other Volume	This is the amount of water used for purposes other than Irrigation, Domestic or Industry
Total Volume	This is the total amount of water supplied by the WSB
Employees	This is the number of people employed by the WSB on a Full Time Equivalence (FTE) basis
Gov. Model	This is the identified Governance Model
Sub Model	This is the identified Governance Sub Model
MDBC	This is whether the WSB is within, partially within, or not within the Murray Darling Basin region
Class of Utility	This category was deemed redundant with Governance Typology and hence not assessed

The following categories were assessed during the content analysis of the Top Management Reports.

Headings	Space dedicated to Headings
Current Drought	Details or description of drought or drought related matters
Mission / Vision	Mission or vision. Corporate 'ideology'

Water Content	
Community / Stakeholder Consultation	Pertaining to stakeholder or public consultation
Complaint – Govt. Policy (Water)	Complaints or criticisms of Local, State, or Federal water policy
Conservation Projects (Water)	Conservation Projects aimed at improving water ecology
Corporate Social responsibility	Pertaining to Corporate Social Responsibility
Current water sources	Pertaining to current sources of water supply
Demand Management - Current	Pertaining to procedures or events involving managing water demand/supply
Demand Management - Future	Pertaining to plans for managing water demand/supply
Environment Plan	Pertaining to either published Environment Plan or stated environmental policy
ESD	Pertaining to Environmentally Sustainable Development or paraphrasing of the underlying paradigms inherent in ESD
Global water issues	Pertaining to global scale Water issues
Impacting litigation - Water	Reference to Local, State or Federal Government legislation that pertains to water
Infrastructure – Maint. (Water)	Includes refurbishment, maintenance, and upgrades of water assets
Infrastructure – New (Water)	Includes replacement, expansion, and development of water assets
Internal or External audit process	Refers to formal audit process
Investigation of other water	Examination of alternative sources, supplies or processes of water procurement
Praise – Govt. Policy (Water)	Praise or endorsement of Local, State, or Federal water policy
Reducing greenhouse gas	Pertaining to Greenhouse gases, emissions, air pollution
Sustainability & water cycle strategy	Pertaining to the natural water cycle and water reclamation strategy
Sustainable policy unit	Reference to specific internal officers or unit that is responsible for overseeing implementation of sustainability paradigms and practices
Water Allocation	Water allocations, entitlements, licensing, etc.
Water Conservation - Agricultural	Reduction of water consumption by the Agricultural sector
Water Conservation - Other	Reduction of water consumption by non-agricultural sectors
Water reuse or Grey water	Recycled, reclaimed, or grey water
Water sales	Sale of water
Water Technology	New technology or discussion of merit of water infrastructure technology

Acknowledgements & Photos of CEO	
Acknowledgements	Acknowledgement of individuals or organisations
Awards from or to WSB	Awards to or from WSB or WSB personnel
Biographies	Biographical information about WSB associated personnel
Decorative photos or graphics	Photos or graphics
Introduction/Rhetoric	Clichés, useless rhetoric, introductory passages. Basically sentences with verbiage
Signature or identifying photo	Signatures or photos about the officers who have contributed to the TMR (ie. The author)
This Document	Information about the document that the TMR is contained within
Visiting Dignitaries	Reference to a visit or collaboration with a dignitary or famous individual not normally associated with the WSB

Non Water	
Complaint – Govt. Policy (Non-Water)	Complaints or criticisms of Local, State, or Federal policy that is not related to water
Conservation Projects (non Water)	Conservation Projects aimed at improving the local non-water based ecology
Impacting litigation – Not Water	Reference to Local, State or Federal Government legislation that does not pertain to water
Infrastructure – Maint. (Non-Water)	Includes refurbishment, maintenance, and upgrades of non water assets
Infrastructure – New (Non-Water)	Includes replacement, expansion, and development of non water assets
Local Events (Non-Water)	Events that do not pertain to water
Non-Water related projects/initiatives	Projects and initiatives that do not pertain to water
Praise – Govt. Policy (Non-Water)	Praise or endorsement of Local, State, or Federal policy that is not related to water
Property Development levels	References to Property Developments, expansions, reductions, etc.
Regional Development	Initiatives or events that relate to regional development or growth

Staff	
Internal workplace culture	Description of work environment related events, culture, or determinations
Staff	Reference to specific or general Staff, includes events, policies, and individuals

Governance	
Board of Management or Committees	Structure, duties or composition of Board or Committees
Meetings of Board or Committees	Activities or events by Board or Committees
Reports on other side of business	Reference to non-water related business activities of WSB
Review of policies	Review or monitoring of internal policies
Structure of WSB	Corporate or operational structure of the WSB

Customers	
Aboriginal & Torres Strait Islanders	Reference to Aboriginal & Torres Strait Islanders community or activities
Community Education	Public or community education or awareness initiatives or activities
Customer billing	Reference to billing processes, policy, or specific events
Customer satisfaction	Reference to customer satisfaction
Customers	General comments about customers

Elections / Profits	
Elections	Pertains to Local, State, or Federal Government or internal elections
Impact of Legislation	References to Legislation that impacts operations or events discussed within the

	TMR
Other financial details	Discussion of financial matters other than profits or budget
Plans for the future	Outlined details concerning plans for the future that is not covered in other categories
Profit or Budget Surplus	Financial details pertaining to profits of budget surpluses