



Executive summary

In this report, research techniques and methods for assessing consumer preferences for drinking water services are discussed. Quantitative methods to assess consumer acceptance, satisfaction and preferences have been reviewed. Appropriate methodologies that may be applied to the drinking water sector are discussed, providing recommendations for future research directions.

Importance

The aim of the report is twofold; the primary aim of the report is to provide the water utilities with an overview of existing techniques and methods to assess consumer preferences, appropriate for specific drinking water sector characteristics. Secondly, this report aims to further develop selected methods in TECHNEAU. In the next phase of Work Area 6, some methods and techniques described in this report will be applied to consumer related research.

Approach

Different research methods designed to assess consumer preferences for drinking water services have been assessed by means of a literature review. These methods will be further developed in TECHNEAU and applied in surveys.

Result

Different approaches and methods to assess consumer acceptance, preferences and willingness to pay or accept. Which technique or method is appropriate for measuring consumer preferences does not only depend on the purpose of the research, but also on the available resources. One reliable method to identify and value consumer preferences that has been composed and applied by CSIRO involves a combination of techniques. The method comprises of the following steps:

1. Focus groups with consumers to identify which service attributes they consider relevant. The identified attributes serve as input for the next step.
2. Determination of whether consumers perceive a discontinuity between the level of service provided for the previously depicted attribute(s) and the investments made to provide that service (to detect over- and underservicing). This is elicited by means of the Subjective Social Indicator technique.
3. Valuation of levels of the relevant product or service attributes that customers 'could cope with' by nomination through a Latitude of Acceptance scale. This results in threshold levels of acceptable service.
4. Valuation of the actual amount of money consumers are willing to pay for their preferred service level(s) by means of a Choice Modelling questionnaire.

The method will be tested in a number of - mainly European - cities later in the project.

More information

The techniques and methods and their (dis)advantages have been described in the report *Assessing consumer preferences for drinking water services: Methods for water utilities* (Deliverable number 6.2.2).

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TECHNEAU Knowledge Integrator (TKI) categorisation

Categorisation of Knowledge Packages

Categorisation (i.e. classification, contains and constraints) of knowledge packages (KPs) can be carried out by 'checking' the appropriate boxes in the attached tables. For example, for a KP investigating point-of-use treatment suitable for a developing world country, the following might be checked:

Classification: Process chain – Tap (Customer) – Point-of-use (POU).

Contains: Report; Literature review.

Constraints: Low cost; Simple technology; No/low skill requirement; No/low energy requirement; No/low chemical requirement; No/low sludge production; Developing world location.

Note that only the lowest level classification needs to be checked, e.g. Point-of-use (POU) in the above example.

Meta data can be included under the 'More Information' section of the Executive Summary Report, i.e. Author(s), Organisation(s), Contact details (name and email), Quality controller (name and organisation) and Date prepared. (The TKI administrator can enter Source (= TECHNEAU), Date submitted (TKI) and Date revised (TKI)).

TKI Categorisation

Classification					
Supply Chain	Process Chain	Process Chain (cont'd)	Water Quality	Water Quantity (cont'd)	
Source	Raw water storage	Sludge treatment	Legislation/regulation	- Leakage	
- Catchment	- Supply reservoir	- Settlement	- Raw water (source)	- Recycle	
- Groundwater	- Bankside storage	- Thickening	- Treated water		
- Surface water	Pretreatment	- Dewatering	Chemical		
- Spring water	- Screening	- Disposal	- Organic compounds		
- Storm water	- Microstraining	Chemical dosing	- Inorganic compounds		
- Brackish/seawater	Primary treatment	- pH adjustment	- Disinfection by-products		
- Wastewater	- Sedimentation	- Coagulant	- Corrosion		
Raw water storage	- Rapid filtration	- Polyelectrolyte	- Scaling		
- Supply reservoir	- Slow sand filtration	- Disinfectant	- Chlorine decay		
- Bankside storage	- Bank filtration	- Lead/plumbosolvency	Microbiological		
Water treatment	- Dune infiltration	Control/instrumentation	- Viruses	Consumers / Risk	
- Pretreatment	Secondary treatment	- Flow	- Parasites		
- Primary treatment	- Coagulation/flocculation	- Pressure	- Bacteria	Trust	
- Secondary treatment	- Sedimentation	- pH	- Fungi	- In water safety/quality	
- Sludge treatment	- Filtration	- Chlorine	Aesthetic	- In security of supply	
Treated water storage	- Dissolved air flotation(DAF)	- Dosing	- Hardness / alkalinity	- In suppliers	
- Service reservoir	- Ion exchange	- Telemetry	- pH	- In regulations and regulators	
Distribution	- Membrane treatment	Analysis	- Turbidity	Willingness-to-pay/acceptance	
- Pumps	- Adsorption	- Chemical	- Colour	- For safety	
- Supply pipe / main	- Disinfection	- Microbiological	- Taste	- For improved taste/odour	
Tap (Customer)	- Dechlorination	- Physical	- Odour	- For infrastructure	
- Supply (service) pipe	Treated water storage			- For security of supply	

- Internal plumbing	- Service reservoir			Water Quantity	Risk Communication
- Internal storage	Distribution				- Communication strategies
	- Disinfection			Source	- Potential pitfalls
	- Lead/plumbosolvency			- Source management	- Proven techniques
	- Manganese control			- Alternative source(s)	
	- Biofilm control			Management	
	Tap (Customer)			- Water balance	
	- Point-of-entry (POE)			- Demand/supply trend(s)	
	- Point-of-use (POU)			- Demand reduction	

TKI Categorisation (continued)

Contains	Constraints	Meta data			
Report	Low cost	Author(s)			
Database	Simple technology	Organisation(s)			
Spreadsheet	No/low skill requirement	Contact name			
Model	No/low energy requirement	Contact email			
Research	No/low chemical requirement	Quality controller name			
Literature review	No/low sludge production	Quality controller/organisation			
Trend analysis	Rural location	Source			
Case study / demonstration	Developing world location	Date prepared			
Financial / organisational		Date submitted (TKI)			
Methodology		Date revised (TKI)			
Legislation / regulation					
Benchmarking					