Transforming complaints into resources in the waste recover sector

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Transforming Biosolids

Complaints and industry

- Complaints are the most well used and identified form of community-industry communication
- Complaints are measured numerically as an indicator of success (is this the best option?)
- Complaints have a lot of clout
- Complaint management based off of Australian/New Zealand Guidelines for Complaint Management in Organisations (AS/NZS:10002:2014) or AS 10002:2022. While standards exist for odour measurement (AS/NZS 4323.3:2001) they do not include complaint information as a resource

Methodology

- Complaint data was requested from all industry partners related to the ARC Biosolids Training Centre *as well as* non-related regulatory bodies and companies

- Data was requested to be received anonymized for ethical concerns, but all fields and details included to help interpret the field's purpose

- Information regarding complaint data was supplemented by interviews with representatives

Participants

- Seven WWTCs of varying sizes provided their complaint databases. One had a single, non logged complaint and was excluded from further study

- A regulatory body provided its complaint database. Another responded but stated that just providing odour-based complaints would be “impossible due to no way to extract them from other complaints”

- A local council complaint database

Database assessment criteria

1. Database quality
   - Level of database normalization
   - Evidence of errors

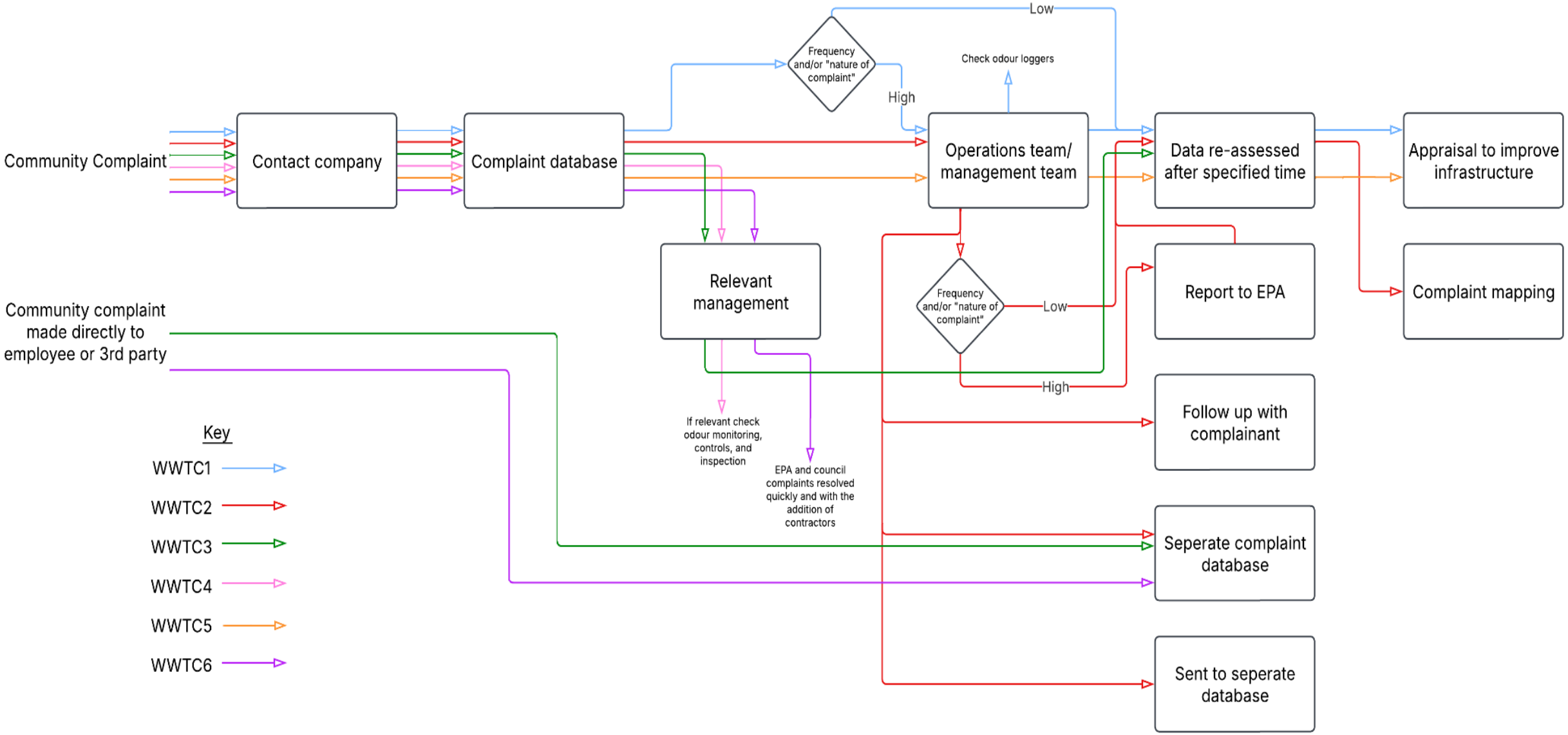
2. Usability as a data source
   - Could the database be used independently? Did it have the capacity to be used by itself?
   - How is complaint data being used and processed?

3. Capacity to record complaints effectively
   - Does it include any odour-based measurements?
   - Does it include addressing odour complaints?

Database quality

- Lots of redundant and/or unused columns
- Evidence of database anomalies, in particular update anomalies. For example; a complaint for the same event may be recorded from multiple sources but reported as several complaints, and often with different methods and approaches → using numeracy of complaints is not effective
- Databases should be able to translate diverse and “fuzzy” problems but they are weak with regards to logging odour events
- Databases should encapsulate the entirety of the issue. For example Complaint status was occasionally referred to as “closed” but not elucidated
- Decreases usability and “shareability” of data. One WWTC representative stated that the database was too “messy” to be used

How was complaint data processed?



Capacity to record odour-based measurements

- Characteristics of the odour in any capacity were included in the “summary” section or not at all.
- Locations of the odour complaint were not systematically recorded, if at all
- Complaint status was occasionally referred to as “closed” but not elucidated
- Overall very little information was provided that explained the odour event, and what information there was was very haphazard

Transforming complaint processes into usable citizen science

- Design complaint databases to incorporate both odour event and odour report response components
- Adopt Third Normal Form database normalization (3NF) for negligible anomalies, increased security, and capacity to include data from varying sources
- Transparency and accountability
- Multi-method two way communication
- Integrate into community engagement infrastructure
- Incorporate FIDOL measures
- More effectively capture *expertise* which includes how complainants were responded to, and assess its effectiveness
- Allow the use of complaint channels to provide *reports*

FIDOL in a complaint database

Frequency: ensure each odour event is recorded separately, even if a single complaint registers multiple odour events

Intensity: ask complainant to measure intensity on a scale 1 to 7, with 1 representing barely perceptible and 7 representing extremely strong

Duration: record in number of minutes

Offensiveness: measure on a scale 1 to 7, with 1 representing neutral, 2 representing mildly unpleasant, and 7 representing extremely offensive

Location: represented by lat/long in decimal degrees (DD) to four decimal places

Odour characterisation is also possible

Database structure

Original report database

- Specify report type (odour, noise, etc.)
- Specify report source (community, EPA, etc)

Odour event database*

- Specify FIDOL qualities of odour event
- Specify severity of odour event
- Detemine if event is a complaint or observation

Odour report response database*

- Specifies specific responses to specific odour report
- Measures response effectiveness

Advantages of an enhanced complaint database

- Databases can be readily secured and shareable to help achieve best practice
- Able to identify “activated communities” when they occur
- Characterize what sort of odour complaints lead to more odour complaints
- Reduces odour complaints themselves (transparency is a strength)
- Reduces and highlights “bad faith” complaints
- Improves resiliency
- Readily adoptable