A systems approach to change littering behaviour in Saudi Arabia

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Litter overview

Definition: “Any piece of misplaced solid waste”

→ Environmental problem:
  1. Endangering and killing wildlife.
  2. Degrading water quality.
  3. Contributing to flooding.
Financial and Social problem

1. Uses a substantial part of community funds for cleaning US$11 billion annually in the United States.

2. Presence of littering in a residential community reduces property values.

3. Create many hazards including health, fire and safety.
Approaches to solving littering

<table>
<thead>
<tr>
<th>Approach</th>
<th>Reference</th>
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<tbody>
<tr>
<td>Identifiable, and accessible receptacles</td>
<td>De Kort et al. (2008)</td>
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<td>The presence of anti-littering signs</td>
<td>Wicherts &amp; Bakker (2013)</td>
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<td>Persuasive messages</td>
<td>Brown et al. (2010)</td>
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<td>Use the power of social norms</td>
<td>Reich &amp; Robertson (1979)</td>
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<td>personal and Community benefits</td>
<td>Tudor et al. (2007)</td>
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<td>The use of fees</td>
<td>Schneider et al. (2011)</td>
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<td>Media messages</td>
<td>Schultz et al. (2011)</td>
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Justification for Selecting the Middle East

- Golf countries rank in the top-ten worldwide in terms of per capita solid waste generation, mainly because of the high standard of living and lack of awareness about sustainable waste management practices.
- Non-Western cultural context deserves attention
Formative research

→ Mixed methods approach.
→ Identify key barriers and motivators.
→ Identify the different approaches.
→ Gives a comprehensive insight.
Structured observation (Quantitative approach)

- Strict protocol
- Covert observations.
- A convenience sample.
- 362 participants
- Parks are a public place.
Variables and Measurements

**Contextual level:**
- Amount of litter exist
- Distance to rubbish bins
- Cleanness
- Beautification
- Crowdedness
- Fence vs unfenced park

**Individual level:**
- Age
- Gender
- Alone or in group

- SPSS using frequencies, Generalized linear model data analysis techniques.
Semi-structured interview (Qualitative approach)

→ 25 face to face interviews, ~ 1.5 hours
→ Guided by MOAB framework
→ Qualitative data analysis
  ▪ Translated and Transcribed
  ▪ NVivo 10, QSR International’s
  ▪ Code, index, nodes
  ▪ Category of codes
  ▪ Themes
Contribution

→ Addressed the call to apply theory in social marketing studies, empirically tested the MOAB framework which guided the in depth interview and observational enquiry.

→ Addressed the call to extend beyond self-report methods (Carins et al., 2016) by employing covert observations in addition to interviews in response to calls for use of multiple methods in formative research.

→ Offering a social marketing formative research study whose aim is to understand both the individual and environmental factors influencing littering in public spaces in Middle Eastern countries to gain actionable insights that can be used to develop an intervention to reduce littering in cultures outside of a western context.
References

Thank you for your attention
Any questions?