

Application of a Combined SWOT-AHP: Determining Stakeholder Perceptions of New Jersey's LSRP Program for Strategic Planning

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Background

Codified in 2009, New Jersey's Site Remediation Reform Act (SRRA) set forth major modifications in New Jersey's Department of Environmental Protection (NJDEP) administration in the remediation activities of over 20,000 contaminated environmental properties. The main goal of SRRA was to establish the Site Remediation Professional Licensing Board in order to create a licensure process for the Licensed Site Remediation Professional (LSRP). The program shifted the responsibilities of NJDEP's Site Remediation Case Managers to the LSRPs. The LSRPs are licensed private individuals which are able to provide remediation services without any delayed approval from the NJDEP. This allows for timelier remediations of contaminated properties that are protective of "human and safety and the environment". In essence, the state privatized a major portion of the NJDEP remediation program. The NJDEP now has resources available to increase the amounts of "No Further Actions and/or Completed" cases. In the ten years following its inception, the amount of these case in the three largest urban cities have increased by 46% as compared to the prior ten. By allowing for quicker remediations, the program has increased the amount of properties available for redevelopment, in turn reducing the stresses on economic, social and environmental factors by creating healthier sustainable cities and indirectly reducing the need for degradation of external undeveloped lands, also known as "Urban Sprawl".

Research Question

Only three US northeastern states (Massachusetts, Connecticut, and New Jersey) have implemented such as extensive privatization of their environmental remediation programs. To increase the awareness of the privatization successes to other states that are struggling with the amounts of properties in need of remediations, increasing the rates of remediations, or to assist New Jersey's program a Strength, Weakness, Opportunities and Threats - Analytical Hierarch Process (SWOT-AHP) technique was applied to determine stakeholder's perceptions. The analysis of the perceptions would determine the programs areas of success and stakeholder concerns that are outside the normal data statistics.

Hypothesis

SWOT-AHP is a known technique used to identify variables of implementing and maintaining a program. The technique was applied to four stakeholder groups to assess each groups' preferences regarding the current LSRP program. The groups include Government and Legal Entities (GLE), Business and Trade Organizations (BTO), non-government organizations (NGO), and the LSRPs. Based on respondents' preferences, these variables are ranked and hierarchy structure.

Methodology

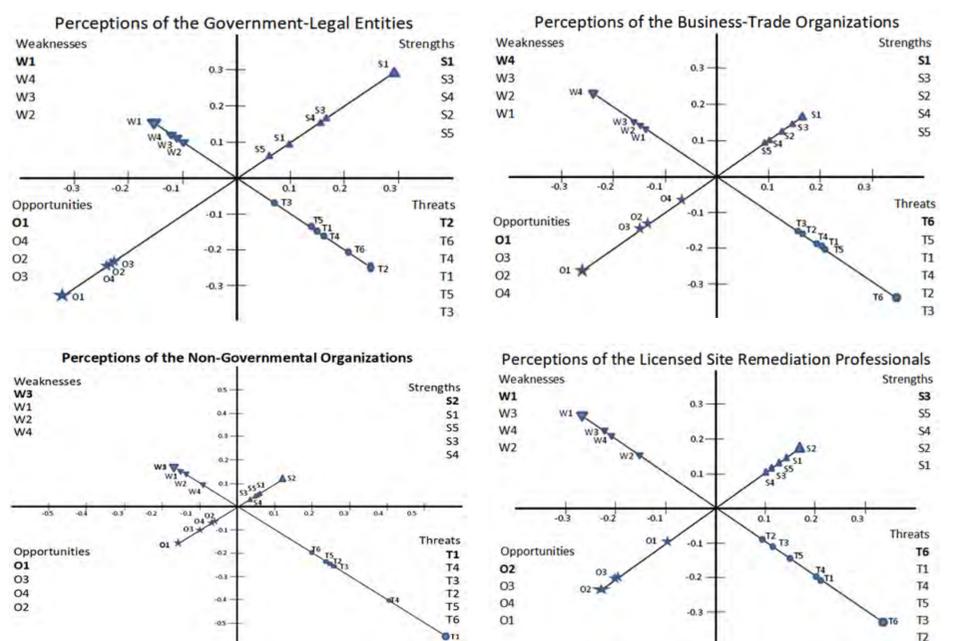
The SWOT-AHP survey process was conducted in three stages. The first stage involved interviewing experts and stakeholders that were conducive in the implantation of the New Jersey's LSRP program to generate a listing of SWOT-AHP factors. The second stage involved an online surveying the individuals from the four stakeholder groups on their preferences of selected pair-wise comparisons of the SWOT factors to determine the rankings within the SWOTs. The final stage involved an online surveying the same individuals on their preferences of the selected pair-wise comparison of the highest ranked SWOT factors as determined from the previous survey. This was to determine the ranking of between SWOT factors.

Results

The overall priority scores for the GLE stakeholders were 0.2748 and 0.3333 for the strengths and opportunities, and the sum was 0.6081 which implies that the total GLE in favor for the LSRP program was 61%. Using the same methodology, it is inferred that following groups were in favor for the program by 43% for BTO, 40% for LSRP, and 26% for NGO. There were three groups ranked for the same highest individual priority factors (O1) for opportunity 32% for GLE, 42% for BTO and 37% for NGO, while the significant concern was the threat priority factor of 29% for NGO (T1), whereas when compared during the overall priority produced a threat scoring of 56% for NGO.

SWOT Categories	Factors priority				Overall priority			
	Government-Legal Entities	Business-Trade Organizations	Non-Governmental Organizations	Licensed Site Remediation Professionals	Government-Legal Entities	Business-Trade Organizations	Non-Governmental Organizations	Licensed Site Remediation Professionals
Strengths					0.2748	0.1670	0.1125	0.1660
S1	0.3610	0.2471	0.2050	0.1597	0.0992	0.0413	0.0231	0.0265
S2	0.1195	0.2090	0.3121	0.1702	0.0328	0.0349	0.0351	0.0283
S3	0.2300	0.2224	0.1712	0.2491	0.0632	0.0371	0.0193	0.0414
S4	0.2091	0.1639	0.1270	0.2019	0.0575	0.0274	0.0143	0.0335
S5	0.0805	0.1576	0.1847	0.2191	0.0221	0.0263	0.0208	0.0364
Weaknesses					0.1439	0.2319	0.1747	0.2651
W1	0.2852	0.2076	0.2799	0.3027	0.0410	0.0481	0.0489	0.0803
W2	0.2186	0.2146	0.2510	0.1785	0.0315	0.0498	0.0439	0.0473
W3	0.2247	0.2285	0.2855	0.2683	0.0323	0.0530	0.0499	0.0711
W4	0.2716	0.3493	0.1836	0.2505	0.0391	0.0810	0.0321	0.0664
Opportunities					0.3333	0.2597	0.1500	0.2373
O1	0.3122	0.4242	0.3684	0.1349	0.1041	0.1102	0.0553	0.0320
O2	0.2291	0.2144	0.1810	0.3095	0.0764	0.0557	0.0272	0.0735
O3	0.2266	0.2472	0.2592	0.2894	0.0755	0.0642	0.0389	0.0687
O4	0.2320	0.1142	0.1914	0.2663	0.0773	0.0297	0.0287	0.0632
Threats					0.2480	0.3414	0.5628	0.3315
T1	0.1495	0.1573	0.2915	0.1921	0.0371	0.0537	0.1641	0.0637
T2	0.2448	0.1413	0.1288	0.0821	0.0607	0.0482	0.0725	0.0272
T3	0.0881	0.1316	0.1383	0.1149	0.0218	0.0449	0.0778	0.0381
T4	0.1594	0.1523	0.2113	0.1778	0.0395	0.0520	0.1189	0.0589
T5	0.1442	0.1602	0.1243	0.1399	0.0358	0.0547	0.0699	0.0464
T6	0.2140	0.2573	0.1058	0.2932	0.0531	0.0879	0.0596	0.0972

S1: LSRPs ability to use Professional Judgment; S2: Requiring the LSRP to comply with a strict "Code of Conduct"; S3: Ability for LSRPs to network ideas through organizations such as the LSRPA; S4: Ability for the LSRPs to quickly adapt to changes in guidance; S5: Having the LSRPs "Code of Conduct" as part of a law; W1: The amount of internal NJDEP resources to handle workload; W2: Holding the LSRP liable for the site; W3: Conflicts between multiple LSRPs in rendering mutual agreeable judgments; W4: Requiring the setting aside monies used for institutional and engineering controls in escrow in perpetuity, instead of having the ability to invest and potentially earning money; O1: The ability to incorporate inputs from groups such as Non-Governmental Organizations, Business and Industry Groups, and Local Communities; O2: The ability to reuse remediated materials for beneficial use; O3: Escalated remediation schedules; O4: Flexibility of LSRP to adapt; T1: Misperception of the general public of an LSRP exercising "Professional Judgment" leading to a site being "Protective of human health and safety and of the environment"; T2: Ability for the NJDEP to overturn a rendered LSRP judgment, due to political pressures; T3: Owners unable to clean up their sites do to financial burdens beyond their ability to remediate, turning properties into orphan sites; T4: Changes to the markets' focusing away from the redevelopment of contaminated properties; T5: Retroactive affects due to standard changes; T6: Ability to improve the analytical detection limits used to quantify target compounds



Future Work

Since the survey conclusion, NJ has codified *P.L.2019, c.263*. Known as SRRA 2.0, it has created additional modifications. Further surveys need be conducted to determine how these modifications impacted the groups perceptions

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