Modern Mall’s Promotion Quality Evaluation and Comparison Analysis

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INTRODUCTION
The modern mall is an open system that keeps exchanging and communicating with the external environment on material energy and information when running. So its survival can not separate from its surroundings. With the end of insufficient economy and the coming of buyer’s market, consumers’ needs become complicated, varied and individualized. In this case, to promote mall’s new and better development, it seems the only way to make use of market and find positive opportunities. For mall’s managers, the administration decision should be rooted on the proper dealing with the internal and external environment. In a word, the most important thing for modern mall management is to actively modify the internal environment according to the movement of the external environment.

The core of modern mall’s external environment is the quantity of market demands, including material demands and spirit demands. Correspondingly, the core of the internal environment is mall’s sale that involves material sales and spirit sales. To acquire timely, accurate, reliable, and applicable decision ground, the mall itself should often analyze and evaluate the major factors that can influence sales.

1. COMPREHENSIVE EVALUATION OF A MALL’S PROMOTION QUALITY

1.1 Evaluation Factors of Sales Quality
There are a lot of factors related to sales. Some are inevitable, some are random, and some are mutually transformed. A parting from random factors, those important factors mainly comprise visible facilities and
invisible service. The former should be complete and safe, and the latter friendly and warm. The specific connotation is as follows:

Convenient: refers to the superior situation and easy access. Once the consumer wants to purchase, he will naturally and decisively choose the mall.

Complete: refers to the verified goods and abundant storage. The consumer can buy everything he needs.

Safe: refers to the cheerful environment, including the facilities and proper goods price. The consumer can feel happy and enjoy homelike warmth and security in the mall.

Friendly: refers to attendants’ friendly, warm, attentive service. The consumer can feel like talking with his family.

Warm: refers to timely service that aims at consumers’ need. The consumer will enjoy beauty while purchasing.

1.2 Comprehensive Evaluation Model of Promotion Quality

1.2.1 Determine the Factor Group U of Promotion Quality Evaluation

By the analysis, given the promotion evaluation factors’ group is U, \( U = (u_1, u_2, u_3, u_4, u_5) \) = (convenient, complete, safe, friendly, warm)

1.2.2 Determine Grade Group V of Promotion Quality Evaluation

Given the V of promotion quality evaluation grades’ group is V, V can be complicated or simple in accordance with actual situation. Usually, V is supposed to be V = (Best, good, common, poor)

1.2.3 Determine the Weight of Every Factor

Because evaluation factor is not the same important as valued thing. Therefore each factor’s performance is also unilaterally dissimilar to the overall performance’s influence. So, before synthesis we should determine the fuzzy weight vector, and define \( A = (a_1, a_2, a_3, a_4, a_5) \) (\( a_i > 0 \) and \( \sum a_i = 1 \)), \( a_i \) is the i-factors and reflects on a trade-off factors.

There is a variety of methods for determining Weight, such as expert’s estimation, the analytical hierarchy process. We consolidate full account of the survey information to customers over the years and expert views, and make sure joint weighting method is desirable. According to investigators shopping centers to record and expert’s advice, make \( A = (0.20, 0.25, 0.25, 0.15, 0.15) \).

1.2.4 Certain Fuzzy Relationship with Matrix r

To Promotion quality of mall, evaluation factors and relationship between evaluation grades, from U to V of the fuzzy relation, fuzzy evaluation matrix can be described, with R as follows:

\[
R = \begin{pmatrix}
r_{11} & r_{12} & \cdots & r_{1m} \\
r_{21} & r_{22} & \cdots & r_{2m} \\
\vdots & \vdots & \ddots & \vdots \\
r_{n1} & r_{n2} & \cdots & r_{nm}
\end{pmatrix}
\]

\( r_{ij} \) is the degree of membership of \( V_j \), and R determination is also the multi-ways. Author considers using weighting adjustment rank appraisal frequency method to be more reasonable under usual situation. Its concrete procedure is to survey 60 customers at the mall in different time and space, and comprehensive factors in the evaluation of U as following tables.

Table 1

<table>
<thead>
<tr>
<th>Grade</th>
<th>Best</th>
<th>good</th>
<th>common</th>
<th>poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>convenient</td>
<td>2</td>
<td>40</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>complete</td>
<td>1</td>
<td>48</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>safe</td>
<td>10</td>
<td>40</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>friendly</td>
<td>10</td>
<td>35</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>warm</td>
<td>5</td>
<td>40</td>
<td>15</td>
<td>0</td>
</tr>
</tbody>
</table>

Invite six experts, and make results of evaluation as following table.

Table 2

<table>
<thead>
<tr>
<th>Grade</th>
<th>Best</th>
<th>good</th>
<th>common</th>
<th>poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>factor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>convenient</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>complete</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>safe</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>friendly</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>warm</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Define \( \alpha = 0.3 \). Because \( r_{ij} = \alpha \frac{v_{ji}}{60} + (1 - \alpha) \frac{v'_{ji}}{6} \) (\( v_{ji} \) is number of custom and \( v'_{ji} \) is number of experts).

Calculate R is

\[
R = \begin{pmatrix}
0.01 & 0.783 & 0.207 & 0 \\
0.005 & 0.707 & 0.288 & 0 \\
0.167 & 0.783 & 0.05 & 0 \\
0.167 & 0.642 & 0.192 & 0 \\
0.142 & 0.783 & 0.075 & 0
\end{pmatrix}
\]

Certainly, component member of judges are possible to be customers or all be experts, and weight is same.

1.2.5 Choose all into Operator, and Make Fuzzy Multi-Evaluation

Use fuzzy mathematical model to calculate

\[
B = A \cdot R = \begin{pmatrix}
0.01 & 0.783 & 0.207 & 0 \\
0.005 & 0.707 & 0.288 & 0 \\
0.167 & 0.783 & 0.05 & 0 \\
0.167 & 0.642 & 0.192 & 0 \\
0.142 & 0.783 & 0.075 & 0
\end{pmatrix} \begin{pmatrix}
(0.20, 0.25, 0.25, 0.15, 0.15) \\
(0.01, 0.783, 0.207, 0) \\
(0.005, 0.707, 0.288, 0) \\
(0.167, 0.783, 0.05, 0) \\
(0.167, 0.642, 0.192, 0) \\
(0.142, 0.783, 0.075, 0)
\end{pmatrix}
\]

Because 0.091+0.743+0.166+0=1,wecan know that for the promotion of quality shopping centers, with 9.1% of people think that the “best”, with 74.3% of people think “good” and 16.6% said “generally.” By the maximum
mem

membershi

membership degree principle, the mall’s marketing quality evaluation should be “better.”

2. PROMOTION QUALITY EVALUATION ON MULTI-MALLS DURING THE SAME PERIOD AND ON ONE MALL DURING DIFFERENT PERIODS

The above model is easy to operate. Though it looks a bit crude, it is very useful for malls to frequently reflect on management. Besides, the proposed model can be applied to promotion quality comparison analysis during the same period on one mall as well as multi-malls. In this case, just grant corresponding marks to the evaluation group and the promotion quality standard will be a specific number. For example, “best” is 7, “good” is 5, “common” is 3, “poor” is 2, then \( C = (7 \ 5 \ 3 \ 2) \), so the final mark for the mall’s promotion quality evaluation is:

\[
Q = B \cdot C = (0.091 \ 0.743 \ 0.166 \ 0)(7 \ 5 \ 3 \ 2)^T = 4.85
\]

By this step, it becomes easy to make comparison.

REFERENCES


