Evaluation of Architectural Barriers in Municipal Offices in the Silesian Province by the Disabled

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Keywords: Evaluation, Municipal office, Disabled people, Silesian province, Poland, Architectural barriers, Quality of services.

Abstract. The article contains an evaluation of architectural barriers encountered by the disabled who use services provided by municipal offices in the Silesian Province. In the study the following research hypotheses have been formulated: 1) the type of disability has a considerable influence on the disabled client’s evaluation of architectural barriers in municipal offices, 2) the age of a disabled person influences the evaluation of architectural barriers in municipal offices. A survey study has been conducted among the handicapped with the following types of disability: damage or disorder of sensory analysers’ function (this category includes among others the blind, people with poor eyesight, the deaf, the hearing-impaired, persons with visual and auditory perception disorders); intellectual impairment—mental retardation, social functioning impairment—disorders related to neural, emotional balance, communication capacity impairment—hindered verbal contact (speech impediments, autism, stammering); motor impairment—persons with motor organ dysfunction. The conducted analysis allowed proving the formulated hypotheses.

Introduction

All types of disability to a lesser or greater degree hinder daily functioning. For this reason, all public facilities should be shaped while taking into consideration the needs of both able-bodied people and the ones who have problems moving, are blind or hard of hearing. Properly designed public institutions and their surroundings can ensure safety and possibility of independent using their services to people with various kinds of disabilities [1, 2, 3, 4, 5, 7, 8].

Disable people live in all societies. Most of them live on their own but they also have to all kinds of official matters, therefore it is important that all public institutions should be adapted to the needs of the handicapped [6, 9, 10]. This refers in particular to offices, especially municipal offices, as the disabled must use them on a daily basis to run different errands.

Methods

In this publication the results of studies on disabled persons’ evaluation of architectural barriers in municipal offices of the Silesian Province have been presented. The Province of Silesian is the second voivode ship in Poland it terms of population, and, at the same time, the province with the largest number of towns in Poland.

Towns for studies were chosen by the stratified sampling method, whereas disabled persons in particular towns were randomly selected. In the first stage, 33 from among 71 towns in the Silesian Province were chosen.

Next random selection was applied to choose disabled people using services of particular municipal offices. Survey studies were conducted in 2014. They resulted in obtaining 2846 correctly completed questionnaires.
Basing on an analysis of subject literature regarding architectural barriers, in the conducted studies 18 variables related to the disabled client’s perception of the quality of service were defined as follows:

- **B1** – office localisation (easiness of access),
- **B2** – appropriate number of parking places,
- **B3** - parking places for the disabled located near the office entrance,
- **B4** – clear marking of parking places for the disabled,
- **B5** – making sure that unauthorised persons do not occupy places for the disabled,
- **B6** – facilities for the disabled in the office,
- **B7** – lifts adapted to the needs of the disabled,
- **B8** – toilets adapted to the needs of the disabled,
- **B9** – handrails by the stairs,
- **B10** – system of ramps and driveways for the disabled,
- **B11** – doors have a width enabling entrance on a wheelchair,
- **B12** – anti-slip floor,
- **B13** – levelled thresholds and floors,
- **B14** – surface and kerbs in the vicinity of the office adjusted to the needs of the disabled,
- **B15** – contains information for the disabled,
- **B16** – legible for the disabled with visual impairment,
- **B17** – municipal office does not have architectural barriers which would make it difficult for the disabled to get around,
- **B18** – general evaluation of architectural barriers in the office.

In the event of evaluation of the quality perceived and expected, marking $B_0$—for expected quality, with the number of subsequent variable, and marking $B_p$—for perceived quality, with the number of subsequent variable, have been applied. Joint evaluation of a particular architectural barrier is perceived quality minus expected quality; for subsequent variables in this case marking B has been applied.

All variables regarding architectural barriers and the level of quality were evaluated on 1-7 Likert scale, where in the case of expected quality 1 means that a given variable is completely irrelevant, whereas 7 means that it is very important; on the other hand, in the case of perceived quality 1 means that a particular variable is performed by the municipal office on a very bad level, while 7 means that its level is very good.

The analysis of the research results was conducted by different quantitative methods for statistical data analysis. Calculations for the needs of the publications were made by means of Excel spreadsheet and Statistica 10.0 package, used on the basis of a licence owned by the Silesian University of Technology.

The construction of the method, which consists in comparing the perceived quality with the expected one, indicates that the level of quality is positive very seldom, as most frequently the quality of the actually provided service does not live up to the expectations. This phenomenon is psychologically determined and occurs in different kinds of organisations [11, 12, 13, 14]. For this reason, the negative result should not be immediately treated as a bad one. A low level of quality occurs only when there is a considerable gap between the expectations and client’s perception of the service. To interpret the results of studies discussed in this publication, the following linguistic scale has been applied:

- above 0 – very good;
- <0;-1) – good;
- <-1;-1.5) – average;
- <-1.5;-2) – bad;
- Below -2 – very bad.

In the investigations the following goals were set:
• Determining the level of the quality of the client service municipal offices of the Silesian Province with regard to architectural barriers, as evaluated by the disabled.
• Identification of hidden factors for architectural barriers.
• Analysis of the influence of the degree of disability on the perception of the quality of service in relation to architectural barriers.

Results

After calculating the values of variables regarding the disabled persons’ evaluation of architectural barriers (Figure 4.1) it turns out that one variable has been assessed on a very low level, namely making sure that parking places for the disabled are not occupied by unauthorised persons – score (-2.05).

Other badly assessed variables include:
• appropriate number of parking places (-1.98);
• legibility of the office’s website for the disabled with visual impairment (-1.88);
• parking places located near the office entrance (-1.82);
• surfaces and kerbs in the vicinity of the office adapter to the needs of the disabled (-1.82)
• anti-slip floor (-1.62);
• lifts adapted to the needs of the disabled (-1.52);
• system of ramps for the disabled (-1.52);
• office’s website contains information that is important for the disabled (-1.51).

Table 1. Evaluation of the level of quality with regard to architectural barriers according to the degree of disability.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Degree of disability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Severe (N=400)</td>
</tr>
<tr>
<td>B1</td>
<td>-1.23</td>
</tr>
<tr>
<td>B2</td>
<td>-1.91</td>
</tr>
<tr>
<td>B3</td>
<td>-1.82</td>
</tr>
<tr>
<td>B4</td>
<td>-1.16</td>
</tr>
<tr>
<td>B5</td>
<td>-2.09</td>
</tr>
<tr>
<td>B6</td>
<td>-1.03</td>
</tr>
<tr>
<td>B7</td>
<td>-1.72</td>
</tr>
<tr>
<td>B8</td>
<td>-1.33</td>
</tr>
<tr>
<td>B9</td>
<td>-0.96</td>
</tr>
<tr>
<td>B10</td>
<td>-1.67</td>
</tr>
<tr>
<td>B11</td>
<td>-1.24</td>
</tr>
<tr>
<td>B12</td>
<td>-1.63</td>
</tr>
<tr>
<td>B13</td>
<td>-1.49</td>
</tr>
<tr>
<td>B14</td>
<td>-1.81</td>
</tr>
<tr>
<td>B15</td>
<td>-1.46</td>
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<tr>
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<td>-1.87</td>
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<td>-1.42</td>
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<tr>
<td>B18</td>
<td>-1.28</td>
</tr>
<tr>
<td>Average</td>
<td>-1.51</td>
</tr>
</tbody>
</table>

Source: Author’s own study.

A division of the results according to the type of disability has been presented in Table 1. The use of non-parametric Kruskall-Wallis test allowed finding statistically significant differences at the significance level of \( \alpha = 0.05 \) between two variables: B14—adapting the kerbs and surfaces in the vicinity of the office to the needs of the disabled and B17—architectural barriers which make it difficult for the disabled with motor impairment to get around the office.
Discussion

A disabled person, as it has been mentioned in the previous chapters of this monograph, in his/her daily existence encounters numerous architectural barriers, which hinder his/her functioning in society. One of major tasks involved in creating a friendly public space for such people is to make sure that municipal offices are built and operate in a way that allows reducing the arduousness of such barriers for the disabled to the greatest possible extent.

A very low evaluation of office employees’ care over the parking places intended for the disabled is symptomatic and indicates that the investigated offices do not pay enough attention to the needs of handicapped people. Making sure that parking places for the disabled are not occupied by unauthorised persons is an easy issue, which does not require large financial expenditure, as opposed to elimination of other barriers. On the other hand, talks with the disabled suggest that for many of them it is frequently a kind of a “test”, informing them whether a particular institution cares for their needs or not. Many handicapped persons automatically perceive a given service outlet worse if from the very beginning they can see that parking places are occupied by unauthorised people, who do not have adequate markings. In many cases disabled people are very sensitive about this problem. Planning this issue is an important element which shapes an image of the office as a place friendly to the disabled and should not be overlooked or neglected.

Taking into consideration the degree of disability—in the case of most variables a better score is given by persons with a mild degree of disability compared to the other two groups of handicapped people. Persons with a severe degree of disability evaluate the examined variables on an average level of -1.51; in the case of moderate degree this evaluation reaches a level of -1.48, whereas for a mild degree of disability, the average score for the quality of architectural barriers is -1.41.

In particular, in the case of variables where the differences are statistically significant:

- for variable B14 persons with severe disability evaluate architectural barriers on a level of -1.81; in the case of people with moderate disability this score is -1.95, whereas in the case of persons affected by mild disability the score reaches -1.71;
- for variable B17 the score given by persons with severe disability is -1.41; people with moderate disability evaluate it on a level of -1.27, whereas in the case of persons affected by mild disability the score is -1.23.

Conclusion

As a result of conducted investigations, problems related to architectural barriers in the examined municipal offices were identified. The studies discussed in this publication allowed the formulated research hypotheses to be positively verified. The results indicate that the type of disability has a significant impact on the evaluation of architectural barriers in municipal offices by the disabled client and that the age of a handicapped persons influences the assessment of architectural barriers in municipal offices.

Summary

The article contains an evaluation of architectural barriers encountered by the disabled who use services provided by municipal offices in the Silesian Province.

Acknowledgement

The analysis in this publication have been made in the course of the research project Appointment profile model of factors affecting the level of customer service with a disability in terms of sustainability of public administration on the example of the Silesian Province, UMO-2012/05/B/HS4/01144 university symbol PBU- 12/ROZ3/2013, funded by the National Center for Science in the OPUS.
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