**Reliability Analysis for OPD**

Reliability analysis measures how consistent a test is across time, across items and across raters. The most common type of internal consistency type reliability is coefficient alpha, also sometimes called **Cronbach’s alpha.** It tells how closely related a set of items are as a group.

**Cronbach’s alpha** measures internal consistency between items in a scale. Cronbach’s alpha is an indicator of consistency:

* It is not a measure of longevity
* It is a measure of unidimensionality

Alpha should be . If less than ten items, it should be

1. **For all variables**

**Table 1:** Cronbach alpha value for all variables

|  |  |  |
| --- | --- | --- |
| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|  |  |  |

*Source:* Outpatient Data, Lagoon Hospital

**Table 2:** Item-total statistics for all statements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Item-Total Statistics** | | | | | |
|  | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
| The staff are courteous |  |  |  |  |  |
| I received clear information from the staff |  |  |  |  |  |
| Appointments are available in a reasonable time frame |  |  |  |  |  |
| Communication and updates were handled conveniently and efficiently |  |  |  |  |  |
| Appointment times are convenient |  |  |  |  |  |
| The Doctor met my needs |  |  |  |  |  |
| The Pharmacy met my needs |  |  |  |  |  |
| The Laboratory met my needs |  |  |  |  |  |
| The Customer Service Team met my needs |  |  |  |  |  |
| Patients are the top priority at Lagoon Hospital |  |  |  |  |  |
| I would return to Lagoon hospitals for additional procedures |  |  |  |  |  |
| I would refer a family member or friend to Lagoon Hospitals |  |  |  |  |  |

*Source:* Outpatient Data, Lagoon Hospital

From table 2 above, it can be seen that some statements are not internally consistent. We would remove these statements and check reliability analysis again.

1. **For Selected Variables**

Based on the information from table 2, we will remove statements The reason for removing these statements is because the Cronbach’s alpha increased when we removed these statements. (Check: Last column of table 2 for reference).

**Table 3:** Cronbach alpha value for selected statements

|  |  |  |
| --- | --- | --- |
| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|  |  |  |

*Source:* Outpatient Data, Lagoon Hospital

**Table 4:** Item-total statistics for selected statements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Item-Total Statistics** | | | | | |
|  | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
| I received clear information from the staff |  |  |  |  |  |
| Appointments are available in a reasonable time frame |  |  |  |  |  |
| Communication and updates were handled conveniently and efficiently |  |  |  |  |  |
| Appointment times are convenient |  |  |  |  |  |
| The Customer Service Team met my needs |  |  |  |  |  |
| Patients are the top priority at Lagoon Hospital |  |  |  |  |  |
| I would return to Lagoon hospitals for additional procedures |  |  |  |  |  |
| I would refer a family member or friend to Lagoon Hospitals |  |  |  |  |  |

*Source:* Outpatient Data, Lagoon Hospital

We can see that the overall alpha level increased a little compared to when we used all variables. We will go ahead to test the statistical significance of these statements. We will use the ANOVA test for this purpose.

**Table 5:** ANOVA Table for F-test

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVA** | | | | | | |
|  | | Sum of Squares | df | Mean Square | F | Sig |
| Between People | |  |  |  |  |  |
| Within People | Between Items |  |  |  |  |  |
| Residual |  |  |  |  |  |
| Total |  |  |  |  |  |
| **Total** | |  |  |  |  |  |
| Grand Mean = | | | | | | |

*Source:* Outpatient Data, Lagoon Hospital

From table 5, we see that it is significant at level of significance.