HCI 460: Assignment 1

Comparison Study of Two Swatch Watches

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Piyatida Buranatum
Jennifer Dubernas
Steve Lee
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Executive Summary

In order to successfully develop and market two new models, it was critical that Swatch measure public’s view on the new model watches. The testing intended to serve as a guide through the many decisions that went into developing the watches. The testing questions were influenced by statistical analysis discussed in class. We are excited to present our findings that we believe not only explains, but carries out good statistical analysis principles that should be useful, informative for the new model’s further prototype development.

From the study, we found that the testees prefer the Skin Swatch to the Turnover Swatch. Our final recommendation is for Swatch to further develop the Skin Swatch and put it on the market.

Purpose & Test Objective

Swatch has designed two prototypes for upcoming season. Their budget only allows for development of one of the watches. The company would like to know which watch the public prefers so they can further their development.

The objective is to conduct a between-groups design of the two watches (independent variable), and measure the public’s view on the overall look and feel of each watch and obtain information about their brand.

Method

The between-groups design method will be conducted. We will have two groups, of ten people each and totally twenty people in all, participate in this experiment. Each group will test one watch. At the beginning of each test we are going to show an informed consent form and ask each individual for their verbal consent. Each participant will be shown a paper prototype of the watch with two different views (Appendix B and C). The participants will be asked 7 questions regarding the watch’s look and feel and 2 questions regarding Swatch’s brand. Each individual experiment should last 5 minutes.

Each of the questions has a rating system. The information gathered will be analyzed and the Null Hypothesis will be tested. If it rejected the alternate hypothesis will be accepted instead. The null hypothesis is there is the difference in the tested factor is due to chance. Whereas the alternate hypothesis is the difference in the tested factor is not due to chance.
1) Do you like the overall design of the watch? (first glance)

The Null Hypothesis is accepted.

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<thead>
<tr>
<th>t</th>
<th>Standard Deviation</th>
<th>Degrees of Freedom</th>
<th>Null Hypothesis</th>
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</thead>
<tbody>
<tr>
<td>-1.47</td>
<td>1.02</td>
<td>38</td>
<td>0.149</td>
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</table>

2) Do you like the shape of this watch?

The Null Hypothesis is rejected.

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<tr>
<td>-2.59</td>
<td>2.08</td>
<td>38</td>
<td>0.014</td>
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</table>

3) Do you like the colors used on this watch?

The Null Hypothesis is accepted.

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<tr>
<td>-1.96</td>
<td>1.85</td>
<td>38</td>
<td>0.057</td>
</tr>
</tbody>
</table>

4) Do you like the interface (display) on this watch?

The Null Hypothesis is rejected.

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<th>Null Hypothesis</th>
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<td>-3.86</td>
<td>1.72</td>
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<td>0.000</td>
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</tbody>
</table>
5) **Rate this watch on a fun scale:**

The Null Hypothesis is accepted.

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<th>Null Hypothesis</th>
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<td>-1.87</td>
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<td>0.069</td>
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</tbody>
</table>

6) **Do you think this watch is worth the price? (Skin : Virtual Village : $70 / Turnover : B&W : $55)**

The Null Hypothesis is rejected.

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<td>-3.39</td>
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<td>0.002</td>
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7) **How likely would you purchase this watch?**

The Null Hypothesis is accepted.

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<td>0.114</td>
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</table>

8) **Does this watch resemble a product that Swatch would manufacture?**

The Null Hypothesis is accepted.

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<td>0.310</td>
<td>3.06</td>
<td>38</td>
<td>0.758</td>
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</tbody>
</table>
9) After seeing these Swatches, would you buy from the Swatch brand?

The Null Hypothesis is rejected.

<table>
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<tr>
<th>$t$</th>
<th>Standard Deviation</th>
<th>Degrees of Freedom</th>
<th>Null Hypothesis</th>
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<td>-2.66</td>
<td>2.86</td>
<td>38</td>
<td>0.011</td>
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<tr>
<td>#</td>
<td>Question</td>
<td>Findings</td>
<td>Recommendations</td>
</tr>
<tr>
<td>----</td>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Do you like the overall design of the watch? (first glance)</td>
<td>The null hypothesis is accepted. The difference between the conditions is due simply to chance. Each individual tested has his/her own preference to the design of the watch.</td>
<td>Since the test proved that it was due to chance, we analyzed the raw data and recommend that the Skin is the better overall design.</td>
</tr>
<tr>
<td>2</td>
<td>Do you like the shape of this watch?</td>
<td>The null hypothesis is rejected and the alternate hypothesis is accepted. The difference between the conditions is real. That is, the difference the products caused the difference with the dependent variable, which is the shape of the watch.</td>
<td>The test proved that the shape is a very important factor and not due to chance. After analyzing the raw data, we recommend the use of the Skin’s shape.</td>
</tr>
<tr>
<td>3</td>
<td>Do you like the colors used on this watch?</td>
<td>The null hypothesis is accepted. The difference between the conditions is due simply to chance. Each individual tested has his/her own preferences to color choice and reacts differently to the color of the watch.</td>
<td>Since the test proved that it was due to chance, we analyzed the raw data and recommend that the colors Skin should be used.</td>
</tr>
<tr>
<td>4</td>
<td>Do you like the interface (display) of this watch?</td>
<td>The null hypothesis is rejected and the alternate hypothesis is accepted. The difference between the conditions is real. That is, the difference the products caused the difference with the dependent variable, which is the interface.</td>
<td>The test proved that the interface is a very important factor and not due to chance. After analyzing the raw data, we recommend the use of the Skin interface.</td>
</tr>
<tr>
<td>5</td>
<td>Rate this watch on a fun scale.</td>
<td>The null hypothesis is accepted. The difference between the conditions is due simply to chance.</td>
<td>Since the test proved that it was due to chance, we analyzed the raw data and recommend that the Skin is better and is more fun.</td>
</tr>
</tbody>
</table>
# Findings and Recommendations

<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>Findings</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Do you think this watch is worth the price? (Skin : Virtual Village : $70 Turnover : B&amp;W : $55)</td>
<td>The null hypothesis is rejected and the alternate hypothesis is accepted. The difference between the conditions is real. That is, the difference the products caused the difference with the dependent variable, which is the price. Each individual perceives the value of the watch differently.</td>
<td>The test proved that the price is a very important factor and not due to chance. After analyzing the raw data, we recommend the use of the Skin has a better value between the products.</td>
</tr>
<tr>
<td>7</td>
<td>How likely would you purchase this watch?</td>
<td>The null hypothesis is accepted. The difference between the conditions is due simply to chance. Each individual tested has his/her own perception to the value of the watches.</td>
<td>Since the test proved that it was due to chance, we analyzed the raw data and recommend that Swatch should promote the worth, value and enjoyment of their watches.</td>
</tr>
<tr>
<td>8</td>
<td>Does this watch resemble a product that Swatch would manufacture?</td>
<td>The null hypothesis is accepted. The difference between the conditions is due simply to chance. Each individual tested has his/her own perception about Swatch products and will react differently to how they perceive Swatch products.</td>
<td>Since the test proved that it was due to chance, we analyzed the raw data and recommend that Swatch should consider stronger branding methods for more recognition.</td>
</tr>
<tr>
<td>9</td>
<td>After seeing these Swatches, would you buy from the Swatch Brand?</td>
<td>The null hypothesis is rejected and the alternate hypothesis is accepted. Each individual tested has his/her own perception to Swatch brand and will react differently to other Swatch brand.</td>
<td>Since the test proved that it was due to chance, we analyzed the raw data and recommend Swatch needs to attract a larger market due to personal preferences and style.</td>
</tr>
</tbody>
</table>
Findings and Recommendations

Group A - Skin Graph:

Group B - Turnover Graph:
Appendix A: Informed Consent Form

Project Title: Comparison Study of Two Swatch Watches

Please read this consent agreement carefully before you decide to participate in the study.

Purpose of the research study:
The purpose of this study is to find out which watch the public prefers.

What you will do in the study:
You will be participating in a short testing session. At no time will the confidentiality of this research be violated by associating identifying information with responses.

Time required: 5 minutes

Risks:
There are no anticipated risks to participating in this study.

Benefits:
There are no direct benefits to you for participating in this research study. The study results will help us find out which watch to further develop. The data collected will be provided when analysis is complete.

Confidentiality:
The information that you give in the study will be handled confidentially. Your information will be assigned a code number. The list connecting your name to this number will be kept in a separate computer file. When the study is completed and the data have been analyzed, this list will be destroyed. Your name will not be used in any report or made public in any way.

Voluntary participation:
Your participation in the study is complete voluntary.

Right to withdraw from the study:
You have the right to withdraw from the study at any time without penalty.

How to withdraw from the study:
If you want to withdraw from the study, simply leave or state that you wish to end the interview. There is no penalty for withdrawing.
Appendix A: Informed Consent Form

Payment: You will receive no payment for participating in this interview

Who to contact if you have questions about the study:
Windu Bumi
Piyatida Buranatum
Jennifer Dubernas
Steve Lee

Who to contact about your rights in the study:
Piyatida Buranatum

Agreement:

Please read the following out loud.

I agree to participate in the research study described above.

You will receive a copy of this form for your records.
Appendix B: Group A – Skin Test
Appendix B: Group A – Skin Test

The Test Questions:

1) Do you like the overall design of the watch? (First glance)
   Hate It (  1   2   3   4   5   6   7   8    9    10  )   Love It

2) Do you like the shape of this watch?
   Hate It (  1   2   3   4   5   6   7   8    9    10  )   Love It

3) Do you like the colors used on this watch?
   Hate It (  1   2   3   4   5   6   7   8    9    10  )   Love It

4) Do you like the interface (display) on this watch?
   Hate It (  1   2   3   4   5   6   7   8    9    10  )   Love It

5) Rate this watch on a fun scale:
   Hate It (  1   2   3   4   5   6   7   8    9    10  )   Love It

6) Do you think this watch is worth the price? $70
   Not Worth the Price (  1   2   3   4   5   6   7   8    9    10  )   Worth the price

7) How likely would you purchase this watch?
   Not Buy It (  1   2   3   4   5   6   7   8    9    10  )   Buy It

8) Does this watch resemble a product that Swatch would manufacture?
   Doesn’t resemble (  1   2   3   4   5   6   7   8    9    10  )   Does resemble

9) After seeing this Swatch, would you buy from the Swatch brand?
   Don’t buy (  1   2   3   4   5   6   7   8    9    10  )   Buy again
Appendix C: Group B– Turnover Test

The Test Questions:

1) Do you like the overall design of the watch? (First glance)
   Hate It ( 1 2 3 4 5 6 7 8 9 10 ) Love It

2) Do you like the shape of this watch?
   Hate It ( 1 2 3 4 5 6 7 8 9 10 ) Love It

3) Do you like the colors used on this watch?
   Hate It ( 1 2 3 4 5 6 7 8 9 10 ) Love It

4) Do you like the interface (display) on this watch?
   Hate It ( 1 2 3 4 5 6 7 8 9 10 ) Love It

5) Rate this watch on a fun scale:
   Hate It ( 1 2 3 4 5 6 7 8 9 10 ) Love It

6) Do you think this watch is worth the price? $45
   Not Worth the Price ( 1 2 3 4 5 6 7 8 9 10 ) Worth the price

7) How likely would you purchase this watch?
   Not Buy It ( 1 2 3 4 5 6 7 8 9 10 ) Buy It

8) Does this watch resemble a product that Swatch would manufacture?
   Doesn’t resemble ( 1 2 3 4 5 6 7 8 9 10 ) Does resemble

9) After seeing this Swatch, would you buy from the Swatch brand?
   Don’t buy ( 1 2 3 4 5 6 7 8 9 10 ) Buy again
## Appendix D: Raw Data

### T-Test

<table>
<thead>
<tr>
<th>Q</th>
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<th>Standard Deviation</th>
<th>Degrees of Freedom</th>
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<tbody>
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<td>Q-1</td>
<td>-1.47</td>
<td>1.02</td>
<td>38</td>
<td>0.149</td>
</tr>
<tr>
<td>Q-2</td>
<td>-2.59</td>
<td>2.08</td>
<td>38</td>
<td>0.014</td>
</tr>
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<td>Q-3</td>
<td>-1.96</td>
<td>1.85</td>
<td>38</td>
<td>0.057</td>
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<tr>
<td>Q-4</td>
<td>-3.86</td>
<td>1.72</td>
<td>38</td>
<td>0</td>
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<tr>
<td>Q-5</td>
<td>-1.87</td>
<td>2.19</td>
<td>38</td>
<td>0.069</td>
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<td>Q-6</td>
<td>-3.39</td>
<td>1.87</td>
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<td>Q-7</td>
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<td>Q-9</td>
<td>-2.66</td>
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<td>38</td>
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## Appendix D: Raw Data

### Skin

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### Result

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<th>Q-4</th>
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<th>Q-8</th>
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<tr>
<td><strong>Mean</strong></td>
<td>7.5</td>
<td>7.5</td>
<td>7.05</td>
<td>7.75</td>
<td>7.2</td>
<td>6.8</td>
<td>5.75</td>
<td>5.9</td>
<td>6.25</td>
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<tr>
<td><strong>95% Confidence Interval</strong></td>
<td>0.23607</td>
<td>0.2634</td>
<td>0.23595</td>
<td>0.17765</td>
<td>0.32206</td>
<td>0.2681</td>
<td>0.33</td>
<td>0.45221</td>
<td>0.42357</td>
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<td><strong>Standard Deviation</strong></td>
<td>1.56525</td>
<td>1.74642</td>
<td>1.56445</td>
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<td>1.77764</td>
<td>2.18804</td>
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<tr>
<td><strong>High</strong></td>
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<td>10</td>
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<td>10</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>Low</strong></td>
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## Appendix D: Raw Data

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Appendix E: Group Information and Contributions

Windu Bumi – wbumi@yahoo.com
- Created Questions for Testing
- Conducted Testing
- Group Evaluation of Data
- Executive Summary
- Final Proof Reading

Piyatida Buranatum – Piyatida_Buranatum@yahoo.com
- Created Questions for Testing
- Conducted Testing
- Group Evaluation of Data
- Executive Summary
- Updated Informed Consent Form
- Created Charts
- Consolidate Group Material for Submitted Report
- Final Proof Reading

Jennifer Dubernas – jenn@jenni4.com
- Created Questions for Testing
- Consolidated Test Questions
- Found Images
- Conducted Testing
- Group Evaluation of Data
- Consolidate Group Material
- Final Proof Reading

Steve Lee – gen_x111@hotmail.com
- Created Questions for Testing
- Conducted Testing
- Group Evaluation of Data
- Created Charts
- Consolidated Data
- Conducted Data Analysis
- Consolidate Group Material
- Final Report Content
- Final Proof Reading