HEALTHCARE REFORM ANALYSIS USING SYSTEM DYNAMICS:
UNDERSTANDING THE IMPACT OF THE HEALTH INSURANCE MANDATE

by

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MODELING AND SIMULATION

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John Adams (Director)
Thomas Jefferson (Member)
George Washington (Member)
Jimmy Carter (Member)
ABSTRACT

HEALTHCARE REFORM ANALYSIS USING SYSTEM DYNAMICS: UNDERSTANDING THE IMPACT OF THE HEALTH INSURANCE MANDATE

Student S. Name
Old Dominion University, 2011
Director: Dr. John Adams

The text of the Abstract starts two double spaces below the heading, with a paragraph indentation. The text of Abstract is typed double-spaced or one-and-a-half spaces according to the spacing style followed in the narrative text; it must not exceed 350 words in length. Any term (or numeral) with a space on either side of it will be counted as a word.

The Abstract contains a statement of the problem, procedure or methods, results, and conclusions. All explanatory matter and opinion should be omitted. The Abstract may continue on the second page.
Copyright, 2010, by Student S. Name, All Rights Reserved.
This thesis is dedicated to the proposition that the harder you work, the luckier you get.
ACKNOWLEDGMENTS

There are many people who have contributed to the successful completion of this dissertation. I extend many, many thanks to my committee members for their patience and hours of guidance on my research and editing of this manuscript. The untiring efforts of my major advisor deserve special recognition.
NOMENCLATURE

\(A\) Amplitude Ratio, (No Units)

\(C\) Centroid of pipe, inches

\(Do\) Outside Diameter of Pipe, inches

\(E\) Modulus of Elasticity, lb/in²

\(EH\) Elastic Modulus at Operating Temperature, lb/in²

\(f\) Stress-Range Reduction Factor, (No Units)

\(F\) Force, lbs

\(I\) Moment of Inertia of Pipe, in⁴

\(N\) Number of Cycles, cycles

\(P\) Pressure, lb/in²

\(R\) Stress Ratio, (No Units)

\(Sa\) \(Sh = \) Allowable Static Stress, lb/in²

\(Sc\) Allowable stress at Minimum Temperature (70°), lb/in²

\(Se\) Endurance Limit, lb/in²

\(SY\) Yield Strength, lb/in²

\(V\) Shear, lbs

\(ZNom\) Section Modulus, in³
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CHAPTER 1
INTRODUCTION

Major headings in the text are bold if other major headings are bold. Boldface or italics may be used for subheadings. Each new chapter begins on a new page. The chapter designation (CHAPTER I) is upper-case and centered at the top of the page. The chapter title is also upper-case and centered at least one double-space (no more than two double-spaces) below chapter designation. Titles and subheadings more than one line in length must be double-spaced. There is no punctuation after a heading or subheading that is on a line by itself. Only major headings may be centered and in all capital letters. First level subheadings may be typed in all capital letters provided they are placed flush left. Spacing before/after headings and subheadings must be consistent throughout. The style used for subheadings must clearly show their various levels and must be consistent from chapter to chapter. Subheadings do not begin on a new page. Text continues within a chapter or section. A subheading at the bottom of a page must be followed by at least one line of text.

1.1 Theoretical Formulations

Note there is 4-line spacing before the subheading and 2-line spacing after the subheading. Each paragraph is indented by 0.5”.

1.1.1 Structured Query Language

Here is an example of a third level heading, these headings to do not need to appear in the table of contents.

---

1 IEEE Transactions and Journals style is used in this thesis for formatting figures, tables, and references.
1.2 Purpose

Here you discuss the purpose. Note equations should be numbered consecutively in the entire thesis, starting with 1. Numbering of figures and tables should be done similarly.

\[ x^2 + y^2 = r^2 \]  \hspace{1cm} (1)

1.3 Problem

Here you discuss the problem. To reference a figure, use “Insert Cross-reference” in Word so that the figure numbers will be automatically updated. Referencing equations and tables should be done similarly, i.e., use Insert => Cross-reference in Word.

Fig. 1. Note that “Fig.” is abbreviated. There is a period after the figure number, followed by two spaces. It is good practice to explain the significance of the figure in the caption. Use normal font size (12 point) and double spacing for the figure caption (title).
1.4 Method and Procedure

Here you discuss the method and procedure. The results are shown in Table I and Table II. Note that either single spacing or double spacing can be used inside tables. Tables and figures should be separated from the text by 4-line spacing.

### TABLE 1

EXPERIMENTAL RESULTS

<table>
<thead>
<tr>
<th></th>
<th>Technique 1</th>
<th>Technique 2</th>
<th>Technique 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSE</td>
<td>0.1</td>
<td>0.2</td>
<td>0.11</td>
</tr>
<tr>
<td>MAE</td>
<td>0.03</td>
<td>0.04</td>
<td>0.02</td>
</tr>
</tbody>
</table>

### TABLE 2

EXPERIMENTAL RESULTS

<table>
<thead>
<tr>
<th></th>
<th>Technique 1</th>
<th>Technique 2</th>
<th>Technique 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>0.1</td>
<td>0.2</td>
<td>0.11</td>
</tr>
<tr>
<td>Complexity</td>
<td>0.03</td>
<td>0.04</td>
<td>0.02</td>
</tr>
</tbody>
</table>
CHAPTER 2
BACKGROUND OF THE STUDY

This chapter is dedicated to discuss the background of the study.

2.1 Literature Review

Here you present the literature review.

2.2 Description of the Study Sample

This is another section.
CHAPTER 3

METHODOLOGY

This chapter is dedicated to discuss the methodology utilized in your dissertation research. Dissertations may require multiple methodology sections depending on the type of research being conducted.

3.1 Literature Review

This section

3.2 Another Section

This section
CHAPTER 4
RESULTS

This chapter discusses the results. Dissertations may require multiple results sections depending on the type of research being conducted.

4.1 New Section
This section

4.2 Another Section
This section
CHAPTER 5

CONCLUSIONS

This chapter discusses the conclusions and recommendations of the dissertation.

5.1 New Section

This section

5.2 Another Section

This section
REFERENCES

Refer to the IEEE Transactions and Journals style for formatting references.
THE OLD DOMINION UNIVERSITY GUIDE FOR PREPARATION OF THESSES AND DISSERTATIONS PROVIDED GUIDANCE FOR APPENDICES. THE FOLLOWING INFORMATION IS DIRECTLY TAKEN FROM THE GUIDE.

1. Heading(s) is/are bold if major headings are in bold.

2. Appendix headings may either be on a separate cover sheet before appendix material or at the top of the first page of each appendix. Be consistent from appendix to appendix.

3. Appendix headings are centered. Appendix titles are centered, in all capital letters and appear at least one double space below heading.

4. Page numbering is continued from the last page of references.

5. All material must be within margins.

6. Tables and figures in appendices may be numbered consecutively following the text, or they may be numbered with an appendix designation. If numbered consecutively from the text, they must be included in the List of Tables or List of Figures.

7. Material may be reduced but must conform to minimum size and legibility requirements.

8. Material may have mixed fonts and point sizes and may be single spaced.
APPENDIX B. EXTREME CONDITIONS TEST

This appendix is to discuss the extreme conditions test.
VITA

The Old Dominion University guide for preparation of theses and dissertations provided guidance for appendices. The following information is directly taken from the guide.

1. The heading (VITA) is in bold if major headings are in bold.

2. Wording of the student’s name must agree with the name on the first three thesis pages.

3. The vita should contain the address for department of study and a brief biographical sketch listing educational background (including background for all previous degrees: degree, major subject, university and date of graduation).

4. Other information is optional but encouraged: professional experience, publications, business or academic information.

5. Name of the word processor may be stated at the bottom of the page. (Example, The word processor for this thesis was Mary Jones.)

6. The vita is limited to one page.

7. Use either paragraph style with same spacing as text or resume style.