

DOUBLE-SIDED DESK WITH ADJUSTABLE LEGS HEIGHT

MUHAMMAD AFIQ SYAHMI BIN SAMIOON

**BACHELOR OF SCIENCE (Hons.) FURNITURE TECHNOLOGY
FACULTY OF APPLIED SCIENCES
UNIVERSITI TEKNOLOGI MARA**

AUGUST 2021

ABSTRACT

DOUBLE-SIDED DESK WITH ADJUSTABLE LEGS HEIGHT

The double-sided desk with adjustable legs height was created to be more creative in this research in order to turn a small space into a comfortable living environment. The product was designed using an adjustable concept that allows furniture to be multifunction which it can serving two tasks at once or adaptable by following the comfortability of the users. The aims of this research are to design a virtual prototype of an adjustable table using a space-saving approach, as well as to provide feedback analysis from correspondent on product features through the research survey. The data collection was based on a set of questionnaires that distributed to 206 respondents from different categories of gender, age, profession and income. The evaluation was carried out on the basis of the characteristics of the raw material, design and function, marketing, and satisfaction. The data have been assessed with reliability analysis, demographic analysis, descriptive analysis comparative analysis and correlation analysis. The results show that the overall respondents were more concerned with the design and function of the product, with the highest mean of 4.40 compared to the other three categories. In conclusion, the double-sided desk with adjustable legs height can be accepted by the respondents and be able to be commercialized in the future.

ACKNOWLEDGEMENTS

Alhamdulillah, thanks to Allah, Most Great, for giving me the strength and blessings to conduct this research. To my supervisor, Dr. Siti Zalifah Binti Mahmud, I would like to express my warm gratitude for her support. She has assisted me in completing this thesis; most of the time, she will guide me where necessary and leave comments that are extremely helpful in the progress of this thesis until I have completed my product, which the double-sided desk with adjustable legs height. I am also grateful to my family for their encouragement and motivation to complete this project, which is beneficial in the financial field as well as always provides me with moral support to complete my studies, especially during the COVID-19 pandemic. I was also fortunate to have friends outside of school, as well as everyone who was directly or indirectly involved in my final year project. Engage in daily support of one another until I finish my thesis. Last but not least, I am extremely grateful to everyone I mentioned above, as well as everyone else who assisted me greatly in completing this final year project in such a short period of time.



(Muhammad Afiq Syahmi Bin Samioon)

(2019452346)

TABLE OF CONTENTS

ABSTRACT	iii
ABSTRAK	iv
ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	xi
CHAPTER 1 INTRODUCTION	1
1.1 Background of study.....	1
1.2 Problem statements.....	3
1.3 Justification.....	4
1.4 Objectives of the study	4
CHAPTER 2 LITERATURE REVIEW	5
2.1 Double sided desk with modular based concept design as a need or want	5
2.2 Adjustable concept	7
2.3 Materials for adjustable desk.....	8
2.3.1 Engineered wood.....	9
2.3.2 Other materials	10
2.4 Anthropometric and ergonomic for an adjustable desk.....	11
2.5 User perception on adjustable desk	12
2.6 Current marketing strategy for a new product.....	13
CHAPTER 3 METHODOLOGY	15
3.1 Introduction	15
3.2 Materials	15
3.3 Methods	16
3.3.1 Product design process	16
3.3.2 Product concept	17
3.3.3 Product research.....	18
3.3.4 Product design development.....	19

3.3.4.1 Brainstorming.....	19
3.3.4.2 Ideation sketches	20
3.3.5 Technical drawing	22
3.3.6 Mock-up Fabrication	24
3.4 Virtual product.....	26
3.5 Product planning.....	26
3.5.1 Bill of material.....	27
3.5.2 Route sheet.....	27
3.5.3 Part list.....	28
3.6 Questionnaires development and data analysis	29
CHAPTER 4 RESULTS AND DISCUSSION.....	32
4.1 Introduction	32
4.2 Reliability analysis	32
4.3 Demographic analysis	33
4.4 Descriptive analysis.....	35
4.5 Comparative analysis.....	39
4.5.1 Gender.....	39
4.5.2 Age.....	40
4.5.3 Profession	42
4.5.4 Income	43
4.6 Correlation analysis	44
CHAPTER 5 CONCLUSION AND RECOMMENDATIONS	47
5.1 Conclusion.....	47
5.2 Recommendations	48
REFERENCES.....	49
APPENDICES.....	54
CURRICULUM VITAE.....	81