

**Decision Support System  
For  
Fast food Marketing**

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## **Declaration**

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

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Date:

## **Acknowledgement**

We dedicate the output of this research work and thesis to Umi sushi Restaurant chain who are pioneers in Japanese cuisine in Singapore. Also, we specifically devote this system to all people who generously contributed their treasured time, advising and assisting in doing this research, especially to our supervisor Mr. S.C. Premaratne. In Singapore, studying consumer behavior isn't always correctly achieved with appropriate techniques. It is with this concept in thoughts that we've got finished these studies. We desire the research and the findings defined beneath will offer a useful perception for analyzing information to offer answers to issues attach with customer behavior patterns.

## **Abstract**

This research suggests a proper decision-making system using Data mining technique such as Frequent Pattern Growth (FP-Growth) Algorithm and K-means clustering, in order to identify consumer behavior on trending food items and conduct profitable marketing campaigns and promotions by comparing association rules of a particular date or day with the previous year. Once the system is developed, timely promotion creation can be done in a more consistent and straight forward way rather than promoting items in a senseless way by comparing the previous year's same season association behaviors.

In order to create such promotions, the proposed system contains data which is undergone through data mining Algorithms. In developing the system, past transaction data is collected from the Point of sales system, and data preprocessing is done by data mining preprocessing techniques. One of the main activities in a food outlet is to determine associations, the inherent regularities in data such as products purchased together and what is the likelihood of buying a specific product after purchasing a certain product. Niwa Sushi Pte Ltd, Singapore as a Japanese food outlet has not yet been used such categorization and consideration in their sales system for processing associations, frequent itemset and subsequent items. The process is still not done even manually, but occasionally done by random observation & heuristic on sales data. The process conducted manually is also not the most accurate information but kind of near guesses.

## Table of content

Declaration.....	ii
Acknowledgement .....	iii
Abstract.....	iv
Table of content .....	v
List of Figures/Tables .....	viii
Chapter 1.....	1
Introduction.....	1
1.1 Prolegomena .....	1
1.2 Background and Motivation .....	2
1.3 Problem Statement.....	2
1.4 Aims and Objectives.....	3
1.4.1 Aim .....	3
1.4.2 Objectives .....	3
1.5 Proposed Solution.....	3
Figure 1.1 Steps in Data mining process .....	4
1.6 Thesis Structure .....	5
Chapter 2.....	6
Literature Review .....	6
2.1 Consumer Behavior in purchased products .....	6
2.2 Unsupervised Exploration.....	9
2.3 Enhancing Association algorithm.....	11
2.4 Forecast Model .....	14
2.5 Novel Methods.....	15
2.6 Classification Comparison.....	15
2.7 Data mining in other domains.....	17
2.8 Decision Support System.....	17
2.8 An Overview of Classification Rule and Association Rule Mining.....	18
Chapter 3.....	19

Technologies .....	19
3.1 Introduction.....	19
3.2 What is Data Mining.....	19
Figure 3.1 Research process .....	20
Figure 3.2 Predictive & Descriptive mining.....	21
3.3 RapidMiner .....	22
3.4 C Sharp .....	22
3.5 Naïve Bayes .....	23
3.6 Decision Trees .....	23
Chapter 4.....	24
A novel approach for Market Basket Analysis.....	24
4.1 Introduction.....	24
4.2 Input .....	24
4.2 Output .....	24
4.3 Process .....	24
4.3.1 Data Selection .....	25
4.3.2 Data Preprocessing .....	26
4.3.3 Data Transformation.....	26
4.3.4 Evaluation/Interpretation .....	27
Chapter 5.....	28
Analysis and Design of the proposed Solutions .....	28
5.1 Introduction.....	28
5.2 Research Design .....	28
Figure 5.1: Activity diagram.....	29
Figure 2.1: Research Design and method .....	30
5.3 Clustering Analysis.....	31
Figure 5.2 Table structure.....	32
Figure 2.2: Table Diagram.....	33
Chapter 6.....	34
Implementation of Solution .....	34
6.1 Introduction.....	34

6.2 Data Collection and Preprocessing .....	34
Figure 6.01 SQL .....	34
Figure 6.02 .....	35
Figure 6.03 .....	36
6.3 Clustering Analysis.....	37
Figure 6.04 Hourly item counts .....	37
Figure 6.05 Clustering Parameters.....	38
Figure 6.06 Clustering diagram .....	38
Figure 6.07 Clustering summary .....	39
Figure 6.08 Sample clustering data.....	39
Figure 6.09 Merge attributes.....	40
6.4 Association rule generation .....	40
Figure 6.10 Generating Association rules.....	40
Figure 6.11 Sample data for Associations .....	41
6.4.1 Association rule generation by date.....	41
Figure 6.12 Generating associations by Date .....	42
Figure 6.13 Import Data.....	42
6.5 Graphical user interface for analysis of associations.....	43
Figure 7.4 – Decision support system.....	43
6.5.1 Date and week day filtering .....	44
Figure 7.5 – Week day filtering .....	44
6.5.2 Item Comparison.....	44
Figure 7.6 –Item Comparison .....	44
6.5.3 Association rules (2017/2018).....	45
Figure 7.7 – Association rules .....	45
6.5.4 Frequent item set (2017/2018).....	45
Figure 7.8 – Association rules .....	45
Figure 6.14 Support .....	46
Figure 6.15 Confidence.....	47
Figure 6.16 Cluster summary.....	47
7.3 Association Rules statistics.....	48

Figure 6.17 Sample data for Association rules .....	48
Figure 6.18 - Association rule Statistics .....	48
Figure 6.19 – Frequent item set statistics .....	49
Chapter 7.....	50
Evaluation .....	50
7.1 Introduction.....	50
7.2 Association Comparison.....	50
Figure 7.1 – Comparison of knowledge.....	51
7.4 Evaluation of Decision support system .....	52
Figure 7.5 – System User interface.....	52
Figure 7.6 – Visual statistics.....	52
Chapter 8.....	54
Conclusion and future works .....	54
8.1 Introduction.....	54
8.2 Limitations .....	54
References.....	56

### List of Figures/Tables

Figure 1.1 Steps in Data mining process .....	4
Figure 3.2 Predictive & Descriptive mining .....	21
Figure 5.1: Activity diagram.....	29
Figure 2.1: Research Design and method .....	30
Figure 5.2 Table structure .....	32
Figure 2.2: Table Diagram.....	33
Figure 6.01 SQL.....	34
Figure 6.02 .....	35
Figure 6.03 .....	36
Figure 6.04 Hourly item counts .....	37
Figure 6.05 Clustering Parameters.....	38
Figure 6.06 Clustering diagram .....	38
Figure 6.07 Clustering summary.....	39
Figure 6.08 Sample clustering data.....	39
Figure 6.09 Merge attributes.....	40
Figure 6.10 Generating Association rules.....	40
Figure 6.11 Sample data for Associations .....	41

Figure 6.12 Generating associations by Date .....	42
Figure 6.13 Import Data.....	42
Figure 7.4 – Decision support system.....	43
Figure 7.5 – Week day filtering .....	44
Figure 7.6 – Filter by item .....	44
Figure 7.7 – Association rules .....	45
Figure 7.8 – Association rules .....	45
Figure 6.14 Support .....	46
Figure 6.15 Confidence.....	47
Figure 7.1 Cluster summary.....	47
Figure 7.2 Sample data for Association rules .....	48
Figure 7.3 - Association rule Statistics .....	48
Figure 7.4 – Frequent item set statistics.....	49