



اَوْنُوْرَسِيْتِي تِيْكْنُوْلُوْجِي مَارَا
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Nicotine-Free Cigarette : NatureNic

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CONTENTS

1.0	EXECUTIVE SUMMARY	1
2.0	INTRODUCTION	2
3.0	NEW PRODUCT DEVELOPMENT	3
3.1.	Introduction of product	3
3.2.	Classification of NPD	4
3.3.	Customer Trend Canvas	6
3.4.	New Product Development Process	7
3.4.1.	Research & Development	12
3.4.2.	Product Design / Features	13
3.4.3.	Concept Testing	16
3.4.4.	Build Prototype (2D or 3D)	20
3.4.5.	Test Marketing	21
4.0	CONCLUSION	27
5.0	REFERENCES	28
6.0	APPENDICES	30

1.0 EXECUTIVE SUMMARY

Cigarette smoking poses a major worldwide health problem leading to more than eight million deaths each year due to nicotine addiction and toxic chemicals in regular cigarettes. To tackle this pressing issue and provide healthier options, this project presents NatureNic, a cigarette without nicotine made from natural, plant-based components like lemongrass, pandan, and cinnamon. NatureNic aims to give smokers a safer option that doesn't cause addiction and mimics the smoking experience without the health dangers. It focuses on both the physical and mental aspects of smoking behavior. The team developed the product step by step starting with in-depth studies on how consumers act and what they prefer. The design uses materials that don't harm the environment such as banana leaf wrappers and filters that break down and smell like herbs, to create an eco-friendly smoking option. Features that put the consumer first, like herb mixes you can customize and less smoke production, make the product even more appealing.

Concept testing through surveys revealed strong interest among younger and health-conscious demographics, with affordability and flavor customization emerging as key drivers of adoption. Test marketing showed that the product had definite possibilities to solve the unsolved needs of consumers, which a marketer would seize as an opportunity to commercialize. It would also be fairly easy for NatureNic to reach and penetrate its target market using social network sites and a focused marketing campaign. By design, with an environmental focus and health-conscious approach, NatureNic is a movement, not just a product, toward healthier lifestyle choices. It has within it the promise of disrupting conventional markets, reducing environmental detriments, and offering a real contribution to public health—a solution working for consumers and stakeholders.

2.0 INTRODUCTION

Cigarette addiction remains a significant global health issue with over one billion smokers worldwide. Millions of people are struggling to quite due to the highly addictive nature of nicotine. The usage of tobacco is linked with life-threatening diseases such as some form of cancer, respiratory ailments and heart diseases among many others and these are responsible for over eight million people dying every year (World Health Organization, 2023). Despite various public health campaigns and nicotine-replacement therapies, many individuals find it challenging to quit because smoking addiction is both chemical and psychological. Smoking behavior is often triggered by specific cues in the environment, leading to automatic responses without conscious thought (Gardner et al., 2019). This interplay of habit and addiction creates a cycle that reinforces smoking behavior, complicating stopping efforts.

Researchers gathered data to investigate the possibilities of nicotine-free smoking products that could serve as alternatives. Researchers collected data through surveys and interviews with adult smokers and those who had quit in Malaysia. They used a cross-sectional survey that focused on adult smokers in Malaysia who were 18 or older. The study used the Challenges to Stopping Smoking Scale (CSS-21) and the Fagerström test to measure nicotine dependence (FTND). This took place from February to June 2021 (Marzo et al. 2022). The main goal was to understand what users liked, how they saw these products, and if they might be open to a cigarette made from natural ingredients that didn't have nicotine. This gave them important information about smoking habits, attempts to quit, and related factors. Several studies used cross-sectional surveys to get information from different groups of people. These studies showed how common smoking was and the difficulties people faced when trying to quit.

The study faced several limitations. First, using tools like the Challenges to Stopping Smoking Scale (CSS-21) and the Fagerström Test for Nicotine Dependence (FTND) might not have been the best fit. These were cooked up in Western countries, so they might miss some key points about how Malaysian smokers tick (Marzo et al. 2022). Second, people reporting their own habits can be tricky. They might downplay or add more to their smoking habits and likes (Patton 2015). Also, doing the study online means some people without internet or those who shy away from studies might've been left out, which could make the result biased. What's more even though the CSS-21

and FTND are tried-and-true tools, they might not catch all the cultural and unique challenges Malaysians face when trying to quit. Lastly, the study's timeline didn't leave room to track behavior changes over a long period.

3.0 NEW PRODUCT DEVELOPMENT

New Product Development (NPD) in the food industry has seen a significant shift towards plant-based innovations and health focused products. This idea surfaces due to the increasing awareness of health, sustainability and environmental concerns. As consumers become more conscious of what they want to consume, there is a growing demand for products that not only cater to health needs but also align with ethical and ecological value. In Malaysia, where a rich variety of plant-based ingredients like lemongrass and pandan leaves, are readily available. This trend presets a unique opportunity for innovation. As Malaysia continues to embrace this shift towards plant-based innovation, it has the potential to put Malaysian agriculture at the forefront of innovative food solutions. This approach has the potential to create a new segment while promoting responsible consumption.

3.1. Introduction of product

The most important part of any manufacturing activity is product development. Aggressive worldwide competition, quickly evolving technologies, more complex marketplaces, and shifting consumer preferences all contribute to the need for new product creation (Hu, 2008). Product development, often known as new product management, is a multi-stage process that includes ideation, design, production and marketing of novel or reinvented goods and services. The entire lifecycle of a product is covered by this process, from conception to market introduction and beyond (Gillis, 2022). New products must be better than their predecessors in terms of pricing, features, quality, and functionality (Nafisi et al., 2019). This project is to make new idea and improving from the existing products. Our idea is to produce a healthy cigarette using natural herbs and plants such as bunga cengkih (cloves), serai (lemongrass), pandan and other ingredients, replacing the typical ingredients found in regular cigarettes. By using these herbs, we aim to provide a healthier alternative, emphasizing the soothing, aromatic, and potentially therapeutic properties of the plants. This product is designed for those seeking a healthier lifestyle, offering a natural, nicotine-free option to traditional smoking.