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Objectives:

- 2.0 To identify and analyse the various ice cream/frozen treat products currently available in both the New Zealand and overseas market.
- 2.1 To investigate the market potential of a new ice cream/frozen treat product for Much Moore Ice Cream Company.
- 2.2 To identify the specific target market for the product.
- 2.4 To investigate suitable ingredients and possible product formulations.
- 2.5 To define a suitable product concept for development.
- 2.6 To formulate a final product that will meet the need of the chosen target market, specified location for sales or use and be feasible for production on the Much Moore Ice Cream Company production line.

Opportunity: We have been given the opportunity through the CREST program to develop and produce a product in relation with Much Moore Ice Cream Company. Our Peppermint Mochaccino flavoured Ice Cream, we believe is a refreshing flavour to the Ice Cream market as the flavour is currently from our research not sold in retail stores such as Countdown or New World.

Issue: To develop and produce a convenient and innovative outcome that has the potential to be produced by Much Moore Ice Cream Company. Our goal is to work as a team, to create and innovative ice cream flavour that can be enjoyed by many, we hope to create Peppermint Mochaccino flavoured ice cream. We want this innovative flavour to be well received by our target audience (adults), chosen board of 12 and Much Moore Ice Cream Company.

Method

Base Mix

Mise-en-place, this means checking that our personal hygiene is in order (e.g. washing hands, hair nets) and that our equipment and ingredients are clean and safe to use.

Accurately measure using scales the following dry ingredients (sugar, milk powder and S/E blend), pour into a bowl.

Accurately measure using scales and a measuring jug the following ingredients (glucose, hot water and cream) pour into a glass jug.

Using the electric hand mixer, blend the wet ingredients whilst slowly pouring in the dry ingredients.

Blend for 1-2 minutes or until the sugar has dissolved.

Pasteurise the base mix by placing the mixture into the microwave for 2-3 minutes, the mixture needs to reach 85°C.

Blend the mixture while it is still hot for at least one minute until it thickens.

Place in fridge (2-4°C) and leave it to age overnight.

(Note: Process is done twice, as we use a separate base mix for Peppermint and Mochaccino)

Peppermint and Mochaccino (Flavouring)

Place a tiny amount of alcohol into the bottom of the churn, place the bucket back on top and wait for the churn to reach -18°C.

Remove base mix from fridge, then using the electric whisk, mix the base mix to get air flowing through the mixture.

Peppermint - Add 0.9g of Peppermint Flavouring.

Mochaccino - Add 0.9g of Coffee Flavouring | Add 0.9 g of Chocolate Flavouring | Add 5g of Caramel (Colouring 150d).

Pour base mix into churn, leave in churn until it thickens.

Using the electric beater until it is thick and store in the freezer -18°C overnight.



Trials:

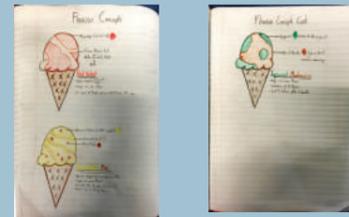
Our survey contained a sample of 34 people from Rosmini College of mixed ages. As you can see from the results chocolate was a very popular flavour as well as mint chocolate. These were where we got our starting idea for our product but we knew that if we wanted to be innovative we needed to come up with a new flavour that we had not seen. We picked coffee as our 3rd flavour to combine because we thought it paired quite well with chocolate and mint.



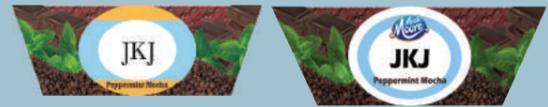
Specifications	How was the specification met or changed? (Refer to Page 2 for Initial Specifications)
Product must be an Ice Cream.	This was met as our product is Peppermint Mochaccino Ice Cream.
Ice Cream must be creamy in texture.	Upon tasting our final product we found that our trial 7 was very creamy and did not have the icy texture compared to other trials.
The colour of the Ice Cream must be brown with white patches (brown representing the coffee flavour and the white being a peppermint flavour).	The colour of the Ice Cream was initially supposed to be brown and green, however we did not like the colour combination visually and we also did not want to use too many artificial ingredients. Our final product features a coffee brown colour for the coffee and the peppermint is kept white, to stay true to the colour of peppermint. We discovered mint is green, peppermint is white.
Flavouring of the Ice Cream must have a coffee flavour and a peppermint flavour that in combination is well received by the target market.	We achieved what we believe to be a great tasting balance of both peppermint and coffee flavour. If you look at our sensory testing results on page 18 you will see that it was well received by our target market.
Peppermint Mochaccino Ice Cream must appeal to the target market. Target market is adults.	If you look at our survey results in particular page 18, you will see that a majority of the people (these were teachers at Rosmini College) we surveyed said that they would purchase our product. We changed our target market from families to adults because of our inclusion of coffee to our flavouring, we believe coffee is a flavour suited for more mature tastes.
The Ice Cream must be packaged in 500mL tubs.	We decided to reduce the sizing of our tubs from 2L to 500 mL this is because we wanted to come off as a 'Tasty' Ice Cream, as we really liked the designs of Deep Souths. We were supplied the 500 mL by Huhtamaki and have been using them to incorporate packaging designs and also to present our packaging.
The packaging must be visually appealing.	Packaging can be seen displayed on page 4, we believe that it is visually appealing, however the lid is still being worked on as mentioned as the lid was quite hard on the eyes.
Product must be able to be stored in a freezer (-18°C) for 1-2 months.	Refer to our HACCP on page 7 and our method on pages 8-12 to see evidence of the correct temperatures that we stored our Ice Cream at. Also over the course of 12 weeks we left one of our Ice Creams in the freezer and upon coming back in August it had still retained the original flavour and texture.

Final Outcome: Peppermint Mochaccino
A balanced combination of Peppermint and Coffee to form a refreshing unique flavour that can be enjoyed by many. Packaged in 500ml tubs to allow convenient way to share this creamy, flavoursome ice cream.

Ice Cream Concept Designs: Initially we had 3 different flavour ideas, Red Velvet, Banoffee Pie and Smores. Smores was taken away immediately because it already exists in retail stores. Red Velvet we liked the idea of the flavour, but thought that it may be quite difficult to get a great tasting flavour and to get that specific Red Velvet taste. Banoffee Pie we actually tried very early on in our CREST project, but the idea was dropped because of two reasons, firstly banana is hard flavour to work with as it is very overpowering. Peppermint Mochaccino is a flavour that we only thought about using because after looking at our survey results we saw that the most popular flavours were chocolate and mint, but since they were a very simple flavour that has been done so many times before we decided to combine them with coffee, giving us our Peppermint Mocha flavour. This flavour of Ice Cream is unique and has not yet been seen in retail markets in New Zealand.



Packaging



The top design is our desired design. The one to the right was our original concept, but after consulting the graphics teacher at our school he told us that there is too much going on so we decided to simplify it giving us our final design. We are still missing the lid design however, this is still a work in progress as we are finding it hard to make it fit with our label and have all the information we need (ingredients, nutritional information)

Challenges We Encountered:

Throughout the creating of our product we have encountered many different problems and challenges, that effected our final product. But through the feedback given to us from various teachers at our school and the feedback from our trials we managed to overcome these problems and challenges.

These Challenges Include:

Packaging Designs: Packaging designs were a problem because we found it hard to come up with a visually appealing design, but with the help of our schools graphics teacher we managed to finalize a design

Ice Cream not Freezing Properly and Separating: this was a problem that we had at the beginning, we overcome this by asking our mentor Steffen for advice and he told us how to fix the problem

Flavour Balance: Getting a balance of peppermint and coffee, as coffee is a strong flavour and we did not want it overpowering the peppermint. But after our trials we managed to fix this problem and get a perfect balance of flavours.

Texture: At the beginning we had a problem where the ice cream was very icy but after asking our mentor he told us how to fix this problem and get a creamy texture.

Colouring: For a long time we had a problem where we could not get our colouring correct, what we wanted was for the mocha part of the ice cream to look like coffee, but after looking in supermarkets we could still not find anything that would give us our desired colour, so we decided to ask our mentor and he then provided us with the colour we were looking for.

Acknowledgments:

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