Institute of Food Technologists
Student Association

MARS SNACKING

IFTSA and Mars Product Development Competition

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Mars Preliminary Proposal Rubric

Product Pitch (25 Points)

Description of Product and Packaging (10 Points)

10-8 Points: Describes the product and all aspects of packaging clearly and completely.

7-4 Points: Some aspects of the product and/or package are unclear, though the general idea is communicated.

3-0 Points: The product idea and/or package is unclear or incomplete, hindering the understanding of this proposal.

Innovation/Novelty (5 Points)

5-4: Displays significant innovation or novelty. Does not resemble any existing product and differentiates itself in many major ways.

3-2 Points: Displays limited innovation or novelty. While it does differentiate itself in minor ways, it largely resembles a singular existing product.

1-0 Points: Lacks significant innovation and novelty. Directly resembles an existing product.

Marketing and Consumer Appeal (10 Points)

10-8 Points: Product marketing is detailed, clearly supporting why the product will appeal to many kids (and/or their parents) compared to competitors/alternatives.

7-4 Points: Product marketing contains gaps or logical flaws; it is partially supported why the product will appeal to some kids (and/or their parents) compared to competitors/alternatives.

3-0 Points: Product marketing is incomplete or deeply flawed.

Product Formulation (15 Points)

Description of Ingredients (5 Points)

5-4 Points: Provides a clear description of the product's ingredients.

3-2 Points: Omits a few major ingredients from the description.

1-0 Points: Fails to adequately describe the product composition.

Ingredient Importance (5 Points)

5-4 Points: Provides justification of why each major ingredient is important in the formulation.

3-2 Points: Flawed logic or ignored ingredients undermine the justification.

1-0 Points: The section does not provide any reasoning for the importance of ingredients.

Nutrition Information (5 Points)

5-4 Points: Nutrition label is complete, properly formatted (according to the FDA's current labeling regulations), and is reasonably accurate considering the products composition.

3-2 Points: Nutrition label is missing a few required nutrients or contains minor formatting mistakes.

1-0 Points: Nutrition label is missing or is unreasonable considering the products composition.

Process Description (15 Points)

Completeness of Commercial Manufacturing Plan (10 Points)

10-8 Points: Process description does not miss any important steps or processing parameters. Product is commercially manufactured using this general process that would be safe, high quality, and consistent with the product's description.

7-4 Points: Process description is missing a few minor details or contains a few minor mistakes that could lead to an undesirable product.

3-0 Points: Commercial manufacture will not be feasible due to being unclear, incomplete, or highly problematic. No points should be given to a proposal which only describes the benchtop process instead of the scaled-up commercial manufacture.

Process Flow Diagram (5 Points)

5-4 Points: Process flow diagram clearly summarizes all steps and parameters of the product's commercial manufacture.

3-0 Points: Process flow diagram is either incomplete or unclear.

Technical Problem Solving (15 Points)

Technical Problem-Solving Success (10 Points)

10-8 Points: Justifies why the given solution was the best choice considering the context of the product and demonstrates that the technical problem is fully resolved.

7-4 Points: The solution is either partially unjustified, or the technical problem is not fully resolved.

3-0 Points: The solution is not justified, or the technical problem is not resolved.

Demonstration of Food Science Knowledge (5 Points)

5-4 Points: Demonstrated some application of technical food science knowledge during the process of problem solving.

3-0 Points: Did not demonstrate any application of technical food science knowledge during the process of problem solving.

Safety/Shelf Life (15 Points)

Product Safety (10 Points)

10-8 Points: Describes all major hazards in the product and how they can be controlled.

7-4 Points: Minor mistakes or omissions in the safety plan need to be corrected.

3-0 Points: Major mistakes or omissions undermine the product's potential to be manufactured safely.

Shelf Life (5 Points)

5-4 Points: Discusses the expected shelf life and its mode of failure with sufficient reasoning to support the logic.

3-2 Points: The shelf-life estimate, while potentially accurate, is not adequately supported.

1-0 Points: The shelf-life estimate is unrealistic and completely unsupported.

Economic Feasibility (15 Points)

Profitability (10 Points)

10-8 Points: Demonstrates clear profitability with support from cost analysis (including ingredients and packaging).

7-4 Points: Demonstrates profitability but with limited support from cost analysis.

3-0 Points: Missing information, unrealistic estimates, or mistakes undermine the claim that the product will be profitable.

Justifies Product Price (5 Points)

5-4 Points: Clearly justifies a realistic product price in relation to competitors and the preferences of target consumers.

3-2 Points: Partially justifies a realistic product price.

1-0 Points: Product price is either completely unjustified or unrealistic.

Mars Final Proposal Rubric

Product Pitch (25 Points)

Description of Product and Packaging (10 Points)

10-8 Points: Describes the product and all aspects of packaging clearly and completely.

7-4 Points: Some aspects of the product and/or package are unclear, though the general idea is communicated.

3-0 Points: The product idea and/or package is unclear or incomplete, hindering the understanding of this proposal.

Innovation/Novelty (5 Points)

5-4: Displays significant innovation or novelty. Does not resemble any existing product and differentiates itself in many major ways.

3-2 Points: Displays limited innovation or novelty. While it does differentiate itself in minor ways, it largely resembles a singular existing product.

1-0 Points: Lacks significant innovation and novelty. Directly resembles an existing product.

Marketing and Consumer Appeal (10 Points)

10-8 Points: Product marketing is detailed, clearly supporting why the product will appeal to many kids (and/or their parents) compared to competitors/alternatives.

7-4 Points: Product marketing contains gaps or logical flaws; it is partially supported why the product will appeal to some kids (and/or their parents) compared to competitors/alternatives.

3-0 Points: Product marketing is incomplete or deeply flawed.

Technical Product Description (15 Points)

Description and Justification of Formulation (5 Points)

5-4 Points: Justifies the use of every ingredient by describing their functionalities in the product and defending their inclusion.

3-2 Points: Flawed logic or unjustified ingredients undermine the description of the formulation.

1-0 Points: The ingredient functionalities are either not included, or the section does not provide any reasoning for their selection of ingredients.

Description and Justification of Packaging (5 Points)

5-4 Points: Justifies the product's packaging by describing their packaging system and defending the choices made during its creation.

3-2 Points: The description of the packaging is missing minor details, or some flawed logic undermines their packaging choices.

1-0 Points: The description of the packaging is missing major details, or their packaging choices are deeply flawed.

Nutrition Information (5 Points)

5-4 Points: Nutrition label is complete, properly formatted (according to the FDA's current labeling regulations), and is reasonably accurate considering the products composition.

3-2 Points: Nutrition label is missing a few required nutrients or contains minor formatting mistakes.

1-0 Points: Nutrition label is missing or is unreasonable considering the products composition.

Process Description (15 Points)

Completeness of Commercial Manufacturing Plan (5 Points)

5-4 Points: Process description does not miss any important steps or processing parameters. Product is commercially manufactured using this general process that would be safe, high quality, and consistent with the product's description.

3-2 Points: Process description is missing a few minor details or contains a few minor mistakes that could lead to an undesirable product.

1-0 Points: Commercial manufacture will not be feasible due to being unclear, incomplete, or highly problematic. No points should be given to a proposal which only describes the benchtop process instead of the scaled-up commercial manufacture.

Justification of Commercial Manufacturing Plan (5 Points)

5-4 Points: The purpose of each step and processing parameter in the process is clearly stated.

3-2 Points: The purpose of a few steps or processing parameters in the process are unclear.

1-0 Points: The section does state the purpose of most of the steps or processing parameters.

Process Flow Diagram (5 Points)

5-4 Points: Process flow diagram clearly summarizes all steps and parameters of the product's commercial manufacture.

3-0 Points: Process flow diagram is either incomplete or unclear.

Technical Problem Solving (10 Points)

Technical Problem-Solving Success (5 Points)

5-4 Points: Justifies why the given solution was the best choice considering the context of the product and demonstrates that the technical problem is fully resolved.

3-2 Points: The solution is either partially unjustified, or the technical problem is not fully resolved.

1-0 Points: The solution is not justified, or the technical problem is not resolved.

Importance/Prominence of Technical Problems (5 Points)

5-4 Points: Solving these problems were vitally important to the viability of the product, drastically improving its feasibility, safety, profitability, or quality.

3-2 Points: Some problems discussed were important to product viability, but one was not a prominent problem. It is unclear why it was included instead of other large issues.

1-0 Points: The problems discussed were not relevant to product viability. Either the team is unaware of larger issues, or these larger issues were ignored for the sake of this section.

Safety/Shelf Life (10 Points)

Product Safety (5 Points)

5-4 Points: Describes all major hazards in the product and how they can be controlled.

3-2 Points: Minor mistakes or omissions in the safety plan need to be corrected.

1-0 Points: Major mistakes or omissions undermine the product's potential to be manufactured safely.

Shelf Life (5 Points)

5-4 Points: Discusses the expected shelf life and its mode of failure with sufficient reasoning to support the logic.

3-2 Points: The shelf-life estimate, while potentially accurate, is not adequately supported.

1-0 Points: The shelf-life estimate is unrealistic and completely unsupported.

Economic Feasibility (15 Points)

Profitability (10 Points)

10-8 Points: Demonstrates clear profitability with support from cost analysis (including ingredients and packaging).

7-4 Points: Demonstrates profitability but with limited support from cost analysis.

3-0 Points: Missing information, unrealistic estimates, or mistakes undermine the claim that the product will be profitable.

Justifies Product Price (5 Points)

5-4 Points: Clearly justifies a realistic product price in relation to competitors and the preferences of target consumers.

3-2 Points: Partially justifies a realistic product price.

1-0 Points: Product price is either completely unjustified or unrealistic.

Marketing / Legality (10 Points)

Marketing and Consumer Appeal (5 Points)

5-4 Points: Product marketing is detailed and well justified, clearly supporting with strong evidence why the product will appeal to the target consumer(s) compared to competitors.

3-2 Points: Product marketing contains gaps or logical flaws. Weak evidence only partially supports why the product will appeal to the target consumer(s) compared to competitors.

1-0 Points: Product marketing is incomplete, unjustified, or does not identify a clear target consumer(s).

Product Legality (5 Points) (Nutrition/health claims, standard of identity, labeling allergens, ingredient legality, etc.)

5-4 Points: Proposal defends the legality of the product regarding all applicable regulations or well justifies why they do not apply.

3-2 Points: One mistake or omission is made which would impact the products' legality.

1-0 Points: Multiple mistakes or omissions are made which would impact the products legality.

Sustainability (5 points)

5-4 Points: Well justifies how the product is more environmentally or socially sustainable compared to competitors.

3-2 Points: Partially justifies how the product is more environmentally or socially sustainable compared to competitors.

1-0 Points: Does not properly justify or include any sustainability improvement.

Mars Oral Presentation Rubric

Product Description (10 Points)

Description of Product, Packaging and Formulation (5 Points)

5-4 Points: Describes the product, packaging, and formulation clearly and completely.

3-2 Points: Some aspects of the product/packaging/formulation are unclear, though the general idea is communicated.

1-0 Points: Many aspects of the product, packaging, or formulation are unclear, hindering the understanding of this presentation.

Nutrition Information (5 Points)

5-4 Points: Nutrition label is included, properly formatted (according to the FDA's current labeling regulations), and is reasonably accurate considering the products composition.

3-2 Points: Nutrition label is missing a few required nutrients or contains minor formatting mistakes.

1-0 Points: Nutrition label is missing or is unreasonable considering the products composition.

Process Description (10 Points)

Process Flow Diagram (5 Points)

5-4 Points: Process flow diagram clearly summarizes all steps and parameters of the product's commercial manufacture. Critical control points are included.

3-2 Points: Process flow diagram is difficult to view or understand.

1-0 Points: Process flow diagram is missing major steps or is very unclearly organized.

Completeness of Commercial Manufacturing Plan (5 Points)

5-4 Points: Product commercially manufactured using this process would be safe, high quality, and consistent with the product's description.

3-2 Points: The processing plan contains a few minor mistakes that could lead to an undesirable product.

1-0 Points: The processing plan will not be feasible due to being highly problematic.

Safety/Shelf Life (10 Points)

Product Safety (5 Points)

5-4 Points: Discusses the few most prevalent hazards in the product and how they will be completely controlled. This product will be manufactured safely if production starts immediately.

3-2 Points: Major mistakes or prevalent omissions in the HACCP plan need to be corrected before the product can be manufactured safely.

1-0 Points: The safety of the product is not discussed.

Shelf Life (5 Points)

5-4 Points: Discusses the expected shelf life and its mode of failure with a thorough justification that supports the predictions.

3-2 Points: The shelf-life estimate, while potentially accurate, is not adequately justified.

1-0 Points: The shelf-life estimate is unrealistic and completely unjustified.

Economic Feasibility (15 Points)

Profitability (10 Points)

10-8 Points: Demonstrates clear profitability with strong support.

7-4 Points: Demonstrates profitability but with limited or unconvincing support.

3-0 Points: Missing information, unrealistic estimates, or mistakes undermine the claim that the product will be profitable.

Justifies Product Price (5 Points)

5-4 Points: Clearly justifies a realistic product price in relation to competitors and the preferences of target consumers.

3-2 Points: Partially justifies a realistic product price.

1-0 Points: Product price is either completely unjustified or unrealistic.

Persuasion of Product's Potential to Succeed (20 Points)

Persuasion of the Product's Potential (10 Points)

10-8 Points: The presentation convinces the audience (as Food Scientists) that this product would feasibly succeed as a real food product, considering all aspects of product development (profitability, practicality, safety, etc.).

7-4 Points: The presentation partially convinces the listener of this product's potential, but some aspects of the product need more development or justification.

3-0 Points: The presentation does not convince the listener that this product could feasibly succeed as a real food product on the market.

Marketing and Consumer Appeal (10 Points)

10-8 Points: The presentation is highly convincing regarding the product's ability to attract many consumers away from competitors/alternatives.

7-4 Points: The presentation is somewhat convincing regarding the product's ability to attract some consumers away from competitors/alternatives.

3-0 Points: It is unclear if the target consumers will purchase this product.

Verbal Presentation (10 Points)

Speaker Engagement (5 Points)

5-4 Points: Speakers are highly confident and engaging while maintaining strong vocal projection throughout. (Though please understand that English may not be everyone's first language)

3-2 Points: Speakers show limited confidence, with noticeable lapses in engagement and vocal delivery.

1-0 Points: Speakers lack confidence, frequent hesitations and lack of engagement.

Logical Flow (5 Points)

5-4 Points: The oral delivery follows a clear and logical flow, effectively transitioning between topics.

3-2 Points: The flow of the oral delivery can be understood, but certain moments are difficult to follow.

1-0 Points: The oral delivery is disorganized and difficult to follow.

Quality and Content of Slides (10 Points)

Organization of Slides (10 Points)

10-8 Points: Slides are exceptionally well- organized with very clear content, being quickly understood and visually appealing.

7-4 Points: Slides are somewhat organized, with some mistakes hindering the clarity of content or visual appeal.

3-0 Points: Slides are poorly organized and difficult to understand.

Ability to Answer Questions (15 Points)

Content of Answers (10 Points)

10-8 Points: The team provides thorough and convincing answers to questions, with sound logic or scientific reasoning.

7-4 Points: The team provides adequate responses to most questions, but with some aspects left unaddressed or unjustified.

3-0 Points: The team is unable to adequately answer questions.

Confidence and Clarity of Answers (5 points)

5-4 Points: The team responds clearly and confidently to questions.

3-2 Points: The team’s responses to questions can be understood but somewhat lack clarity or confidence.

1-0 Points: The team's responses to questions cannot be understood, being completely unclear and unconfident.

Mars Tasting Presentation Rubric

Oral Presentation and Reintroduction of the Product (10 Points)

Reintroduction of Product (10 Points)

10-8 Points: The team briefly and effectively reintroduces their product.

7-4 Points: The team somewhat reintroduces their product.

3-0 Points: The team fails to reintroduce their product.

Taste and Eating Experience (30 Points)

Flavor Profile (15 Points)

15-11 Points: The target consumers would consider the product to have an exceptional flavor profile, with a pleasant taste, appealing aroma, and no off flavors.

10-6 Points: The target consumers would consider the product to have a decent flavor, but with some noticeable off-flavors or aromas.

5-0 Points: The target consumers would consider the product to have an unpleasant flavor profile, with major off-flavors and imbalances.

Texture and Mouthfeel (15 Points)

15-11 Points: The target consumers would consider the product to have an excellent texture and mouthfeel, being pleasant.

10-6 Points: The target consumers would consider the product to have an acceptable texture and mouthfeel, with some minor issues.

5-0 Points: The target consumers would consider the product to have an unpleasant texture and mouthfeel.

Expectations and Delivering on Claim (30 Points)

Meeting Product Expectations (20 Points)

20-14 Points: The product fully meets all the claims made during the report and presentation, providing a strong match between description and experience.

13-7 Points: The product meets some claims but falls short on key points.

6-0 Points: The product has significant discrepancies between claims and experience.

Consumer Satisfaction (Considering price/use/marketing/everything) (10 Points)

10-8 Points: Overall, the product is highly satisfying to the consumer, delivering an experience that is likely to encourage consistent consumer interest.

7-4 Points: Overall, the product is mostly satisfying, with minor issues which could lower consumer interest.

3-0 Points: Overall, the product is highly unsatisfying, with major failures that would prevent consistent consumer interest.

Ability to Answer Questions (30 Points)

Defense of Development Decisions from Judges' Questions (20 Points)

20-14 Points: Provides thorough and convincing answers that justify decisions made during the product's development.

13-7 Points: Provides answers that somewhat justify most decisions, with minor gaps.

6-0 Points: Struggles to justify decisions, with several key areas inadequately defended.

Responding to Judge Criticism or Concerns (10 Points)

10-8 Points: Responds effectively to criticism of the product, supporting themselves with calm, clear, and logical reasoning when necessary.

7-4 Points: Responses to criticism are adequate but may lack some clarity or logic.

3-0 Points: Fails to respond effectively to criticism, with poor, angry, or non-existent reasoning.