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Willingness to Eat an Insect Based Product and Impact on Brand Equity: A Global Perspective

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Abstract

The rapid population growth is creating the need to find new and sustainable food sources. Insect-based products could satisfy this high priority necessity while incorporating important nutrients in the human diet such as protein, vitamins and minerals. This research provides a global overview of the willingness to try a new product that contains insect powder and determine the impact of adding insect-based products to a brand's portfolio. An international survey (translated into nine languages) was fielded in 13 different countries, where 630 participants from diverse demographic backgrounds were recruited to have a representative sample of each country's population. Eight of the 13 countries could be classified as "disgust" countries where most respondents said they would not be willing to try a familiar product containing insect powder. Nine countries fell into the "impact" category where participants would be more likely to stop buying other products from this company knowing that they have used insect powder in another product from the same brand. The reasons why participants would not consider eating foods containing insect powder were religion, the perception that insects carry diseases and cause allergic reactions. Only the disease-carrying perception was significant in most of the countries.

Introduction

The idea of insects as food is growing because it promises several advantages for health, the environment, and people's livelihoods (van Huis, 2013; Henchion, 2017). Several research studies have shown that insect based product are starting to gain acceptability in different populations across the world.

But the disgust factor (unwillingness) is a difficult challenge to overcome. This study is targeting to measure this barrier and understand what countries are more receptive to eat insects.

Not only the sensory side of an insect based product is crucial but also the cultural factor plays an important role in consumer decision. It is essential to protect brand image and study if novel products can deteriorate brand equity.

This is a key starting point for new research and development projects among many large multinational companies and essential if future protein sources, such as insects, are to be introduced into their products.

Objectives

1. Investigate willingness to eat insect-based products and provide a global perspective
2. Determine the impact of adding insect-based products on brand equity.

Methodology

Participants:

630 respondents were recruited in each country. One hundred participants of each gender in each of three age groups: 18-34 years old; 35-54 years old; 55+ years old were targeted in each country.

The participants represented 13 different countries (United States (USA), Mexico, Peru, Brazil, United Kingdom (UK), Spain, Russia, India, China, Thailand, Japan, South Africa, and Australia) where differences in cultures, languages, and religions make a multi cross-cultural international survey.

Survey:

For this specific research two main questions related to the willingness to eat new products that contain insect powder and the impact on the company's brand equity, as well as three questions about reasons for not eating insect products are reported. Questions related to reasons were: 1) Religion does not allow all or certain insects; 2) Insects carry diseases and 3) I have an actual allergic reaction to some insects. All responses were measured on 7-pt Likert-type scales. (Extremely Unlikely to Extremely Likely)

Answer the following questions based on this idea

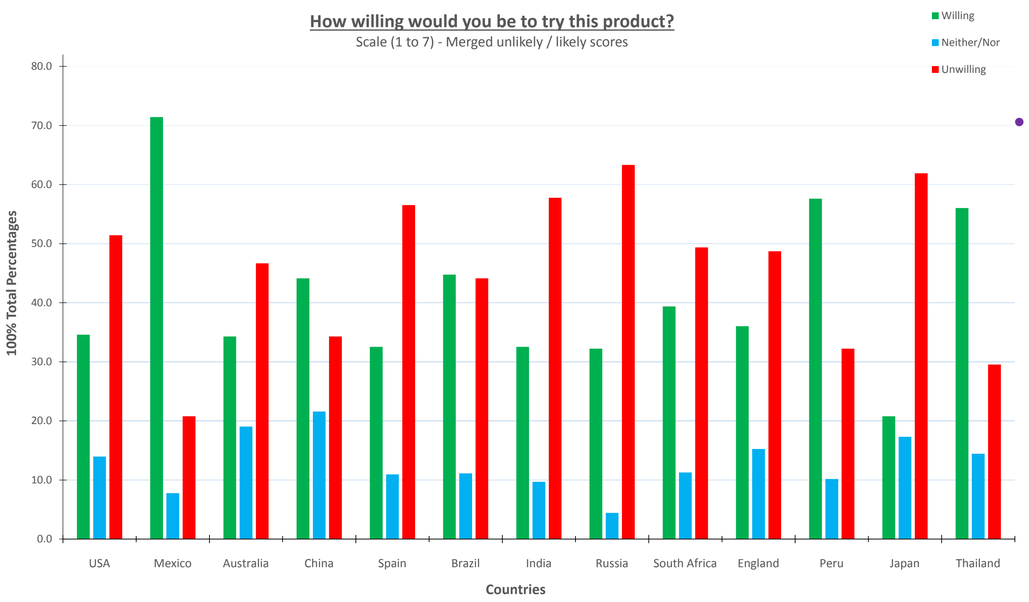
If a major worldwide company; e.g., PepsiCo, Nestle, Coca-Cola, KFC, Starbucks, etc., introduces a new product, similar to one you currently buy, that contains insect powder.

How willing would you be to try this product?
- o Extremely unlikely …(7pt-scale)
- o Extremely likely

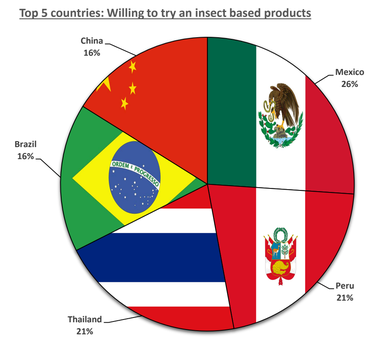
How likely would you be to stop buying other products from this company knowing they have used insect powder in one product?
- o Extremely unlikely …(7pt-scale)
- o Extremely likely

Results and Discussion

Willingness to try insect based products:

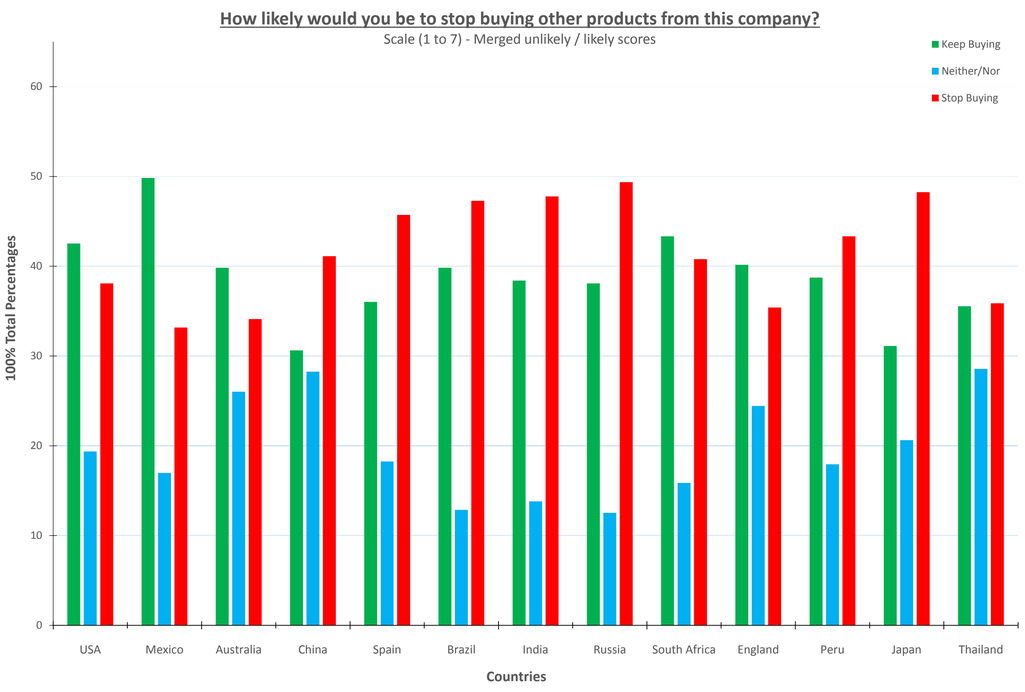


- USA, Australia, Spain, India, Russia, South Africa, UK and Japan could be classed as "disgust" countries.
- "Acceptor" countries were Mexico, China, Brazil, Peru, and Thailand, participants would try familiar products if they had insect powder added.

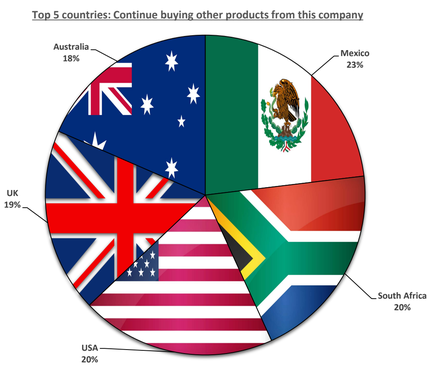


- Russia (63%), Japan (62%), India (58%) and Spain (57%) were the least willing to try a familiar product that had insects as an ingredient.
- Consumers in Mexico (71%), Peru (58%) and Thailand (56%) were the most likely to try such products.

Effect on Brand Equity:



- After correlating Q1 with Q2; Four categories were created: 1) Disgust = No impact on Brand Equity; 2) Disgust = Impact on Brand Equity; 3) No Disgust = No impact on Brand Equity; 4) No Disgust = Impact on Brand Equity.
- If the correlation of willingness to try is low or positive with the likelihood of not buying products from that brand, then we can conclude there is little to no systematic impact on brand equity.



- Only USA and Brazil showed no effect on brand equity, China and India did not present a correlation factor. The rest of the countries fell into categories 2 or 4 which have an impact on brand equity.

External Variables: Reasons for not eating food containing insect powder

- Three variables were reported in this study: 1) Religion does not allow all or certain insects in the participant's diet. 2) Insects carry diseases. 3) Allergic reaction to some insects.
- India was the only country that showed religion as an influential factor, the rest of the countries strongly disagree (over 50%) with this belief. Additionally, displayed the highest score (75%) strongly agreeing that insects carry diseases.
- Again, India was the only country revealing a positive outcome to allergic reactions when clustering and comparing the 7-point scale values.

Conclusions

- Consumers in many countries exhibit food neophobia towards products with insect-based ingredients. Even in countries classed as acceptor countries (e.g. Mexico and China), where more people are willing to try such products, there was a portion of the population that would not.
- As the willingness to try an insect based product decreased the impact on brand equity increased. That finding is key because it suggests that if opportunity exists for companies to create products containing insect powder, they must be careful that the disgust factor does not overflow onto other products in the brand.
- The belief that insects carry diseases was high in almost all countries and this provides a clear research topic for further investigation. Clearly consumers need further education on insect proteins to diminish the barrier disgust.
- Insect based products or using insect powder as an ingredient is becoming more familiar around the world, but this study suggests that willingness to try an insect-based product is still low.