INNOVACIÓN Y EMPRENDIMIENTO

Clase 11 – Product/Market fit: Un camino a la estimación de la demanda Parte 2

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Pontificia Universidad Javeriana de Bogotá, 01-2018

Perfil de los clientes

Traducir a números los perfiles

Segmentar el T.A.M.

Segmentar el techo de mercado S.A.M.

Formular el plan de lanzamiento

Estimación

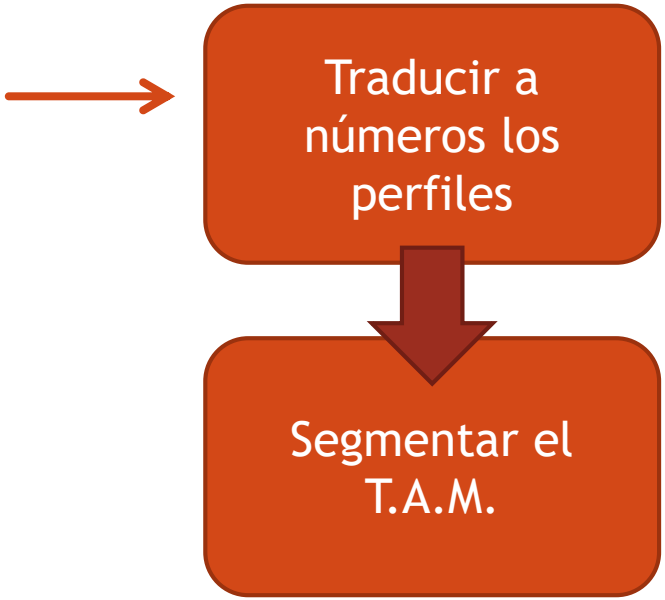
Customer creation

Hitos de Producción Y venta

Traducir los perfiles de los clientes

- **Input:** Perfiles de los clientes debidamente especificados
  - Usando fuentes secundarias se pasa de una descripción literal a una numérica (DANE, INE, BEA, Census Bureau, OCDE, Passport, Nielsen, etc.)
  - Ej: Estudiantes de la MBA de la PUJ en el nivel socioeconómico 4, 5 y 6 que vivan en los barrios de Usaquén y Chapinero
  - 178 personas (De la Vega, 2017)
- **Output:** Tamaños totales de las poblaciones que representan a esos clientes

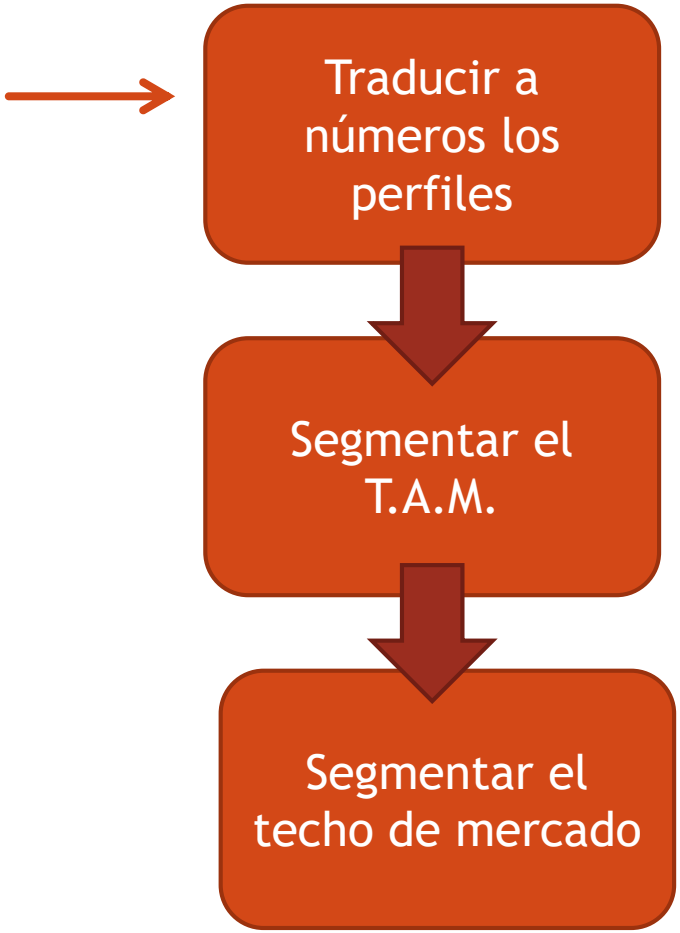
Perfil de los clientes



Segmentar el Total Addressable Market

- **Input:** Tamaños totales de las poblaciones que representan a los clientes
  - Usando fuentes secundarias se calcula el tamaño especifico del mercado (en $ facturado o unidades)
  - Ej. Porcentaje del gasto mensual de una familia en alimentos: 29.7% (DANE 2016)
  - Gasto mensual de los clientes objetivo: 3.8 millones COP
  - TAM: 1.13 millones COP al mes
  - Ingreso y gasto de los hogares, DANE
- **Output:** Total Addressable Market – tamaño de todo el mercado

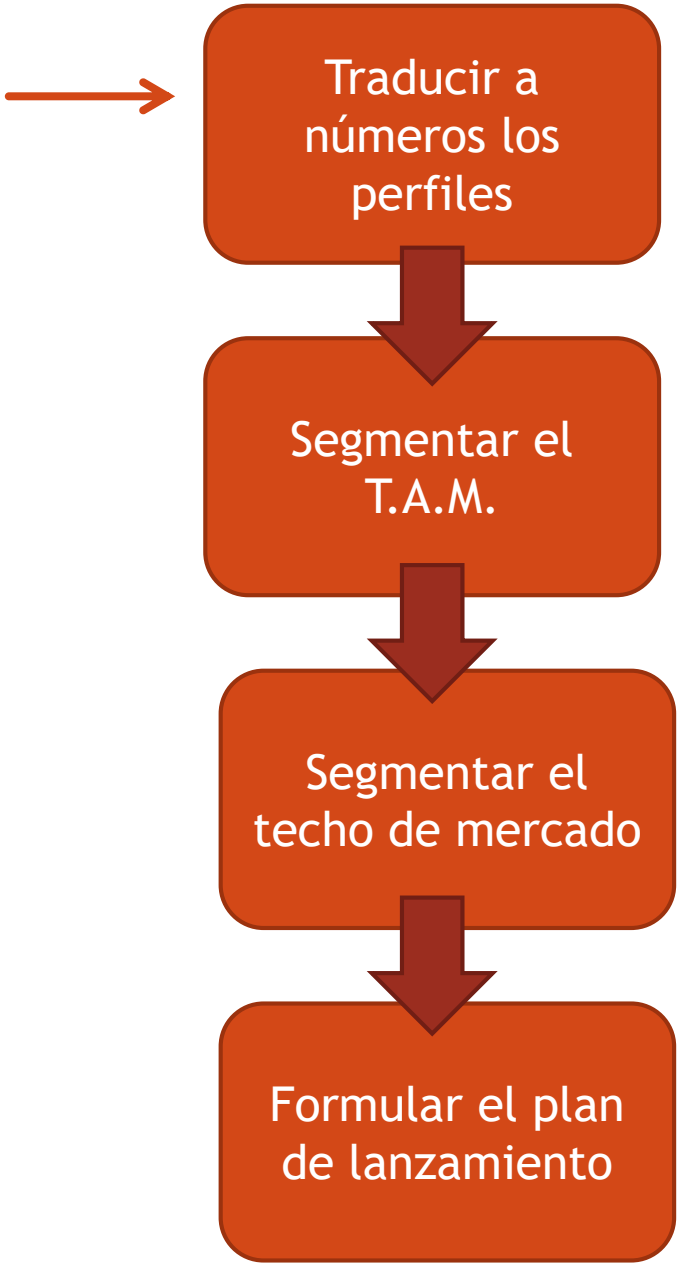
Perfil de los clientes



Segmentar el techo de mercado: Service Available Market

- **Input:** El TAM
  - Usando fuentes primarias se calcula el tamaño máximo del mercado que podemos servir (TAM >= SAM)
  - Ej. El 18% de los estudiantes de la MBA están interesados en adquirir nuestro producto una vez al mes.
  - Facturación estimada: 205 000 COP
  - Cada unidad se vende (POS) a 3500 COP
  - Demanda estimada: 58 unidades/mes. (Ojo no es 178*0.18)
- **Output:** Service Available Market – el máximo mercado que podemos aspirar

Perfil de los clientes



Formular el plan de lanzamiento

- **Input:** Demanda total. Insumos tecnológicos, materiales, financieros, etc.
  - Según las características del proyecto, definir un plan de lanzamiento.
  - Ejemplo: 20 unidades el primer mes, 40 el tercero, 60 a partir del sexto.
  - Establecer una participación de mercado a ir escalando: 20% anual, con 5% cada trimestre.
- **Output:** Una línea de tiempo con cantidades a producir/vender.

Perfil de los clientes

Traducir a números los perfiles

Segmentar el T.A.M.

Segmentar el techo de mercado

Formular el plan de lanzamiento

Hitos de Producción Y venta

Ahora trabajemos juntos en un ejemplo

Ejemplo

- **Problema:** Los niños cuando van a la escuela primaria están expuestos a numerosas bacterias y virus, particularmente la gripe. Esto provoca que enfermen fácilmente y se conviertan en vectores de infección para sus familias.

- **Solución:** ?

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number of flu cases per year

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5% to **20**% -- Percentage of the U.S. population that will get the flu, on average, each year. **200,000** -- Average number of Americans hospitalized each year because of problems with the illness. 3,000 to 49,000 -- Number of people who die each year from flu-related causes in the U.S. Oct 27, 2015

Flu Statistics: What Are Your Odds of Getting the Flu? - WebMD
www.webmd.com/cold-and-flu/flu-statistics

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Avoid the 'back-to-school plague'

By Jen Christensen, CNN
Updated 1823 GMT (0223 HKT) August 2, 2016

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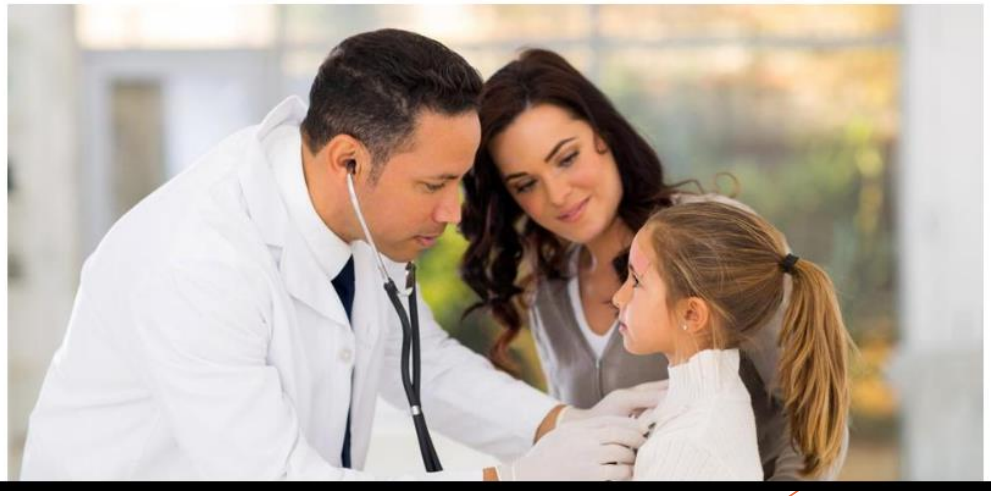
Why do so many kids get sick at back-to-school time?

6



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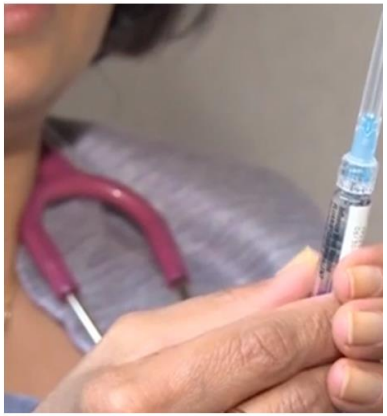
To Your Health

This flu season has now reached pandemic levels (but it's not techni

By Lena H. Sun and Lindsey Bever February



Here's a look at how the flu virus infects the body anc
(Joyce Koh/The Washington Post)

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washington post flu 2018

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Flu symptoms 2018: What to know about the flu this ... - Washington Post
https://www.washingtonpost.com/.../2018/.../heres-what-you-should-know-about-the-flu...
Jan 25, 2018 - This **post** has been updated. This year's **flu** season is turning out to be so intense that the number of people seeking care at doctors' offices and emergency rooms is almost as high as levels reported during the peak of the 2009-2010 swine **flu** pandemic, federal officials have said. It has already caused the ...

Why flu season 2018 is record-breaking, not a ... - Washington Post
https://www.washingtonpost.com/.../2018/.../this-flu-season-has-now-reached-pandemic-...
Feb 9, 2018 - This **flu** season is turning out to be so intense that the number of people seeking care at doctors' offices and emergency rooms has surged to levels not reported since the peak of the 2009 swine **flu** pandemic, federal officials said Friday. For yet another week, the **flu** continues to get worse. "We were hoping ...

This deadly flu season has peaked, but a late bump ... - Washington Post
https://www.washingtonpost.com/.../2018/.../this-deadly-flu-season-has-peaked-but-a-lat...
Mar 2, 2018 - An additional 17 child deaths were reported across the country for the week ending Feb. 24. That brings the total of child deaths to at least 114 for the 2017-**2018** season. The percentage of doctor visits for **flu** symptoms dropped for a second week in a row, according to the latest indicators from the Centers ...

2018 flu: Outbreaks spread with more deaths in ... - Washington Post
https://www.washingtonpost.com/.../2018/.../she-survived-her-first-bout-of-the-flu-but-n...
Feb 9, 2018 - Angie Barwise had come down with the **flu** around the holidays. Days **after** Christmas, the 58-year-old Texas mother and grandmother was diagnosed with **influenza**, along with bronchitis and strep, her family told Fox affiliate KDFW. Doctors gave her antibiotics and Tamiflu, an antiviral medication used to ...

Flu cases fall for the first time this awful influenza ... - Washington Post

Ejemplo

- **Problema:** Los niños cuando van a la escuela primaria están expuestos a numerosas bacterias y virus, particularmente la gripe. Esto provoca que enfermen fácilmente y se conviertan en vectores de infección para sus familias.

- **Solución:** Un caramelo que elimine las bacterias del paladar de los niños mediante un antibiótico de fuerza moderada y refuerce su sistema inmunológico utilizando una combinación de aminoácidos y vitaminas.

La “magia”

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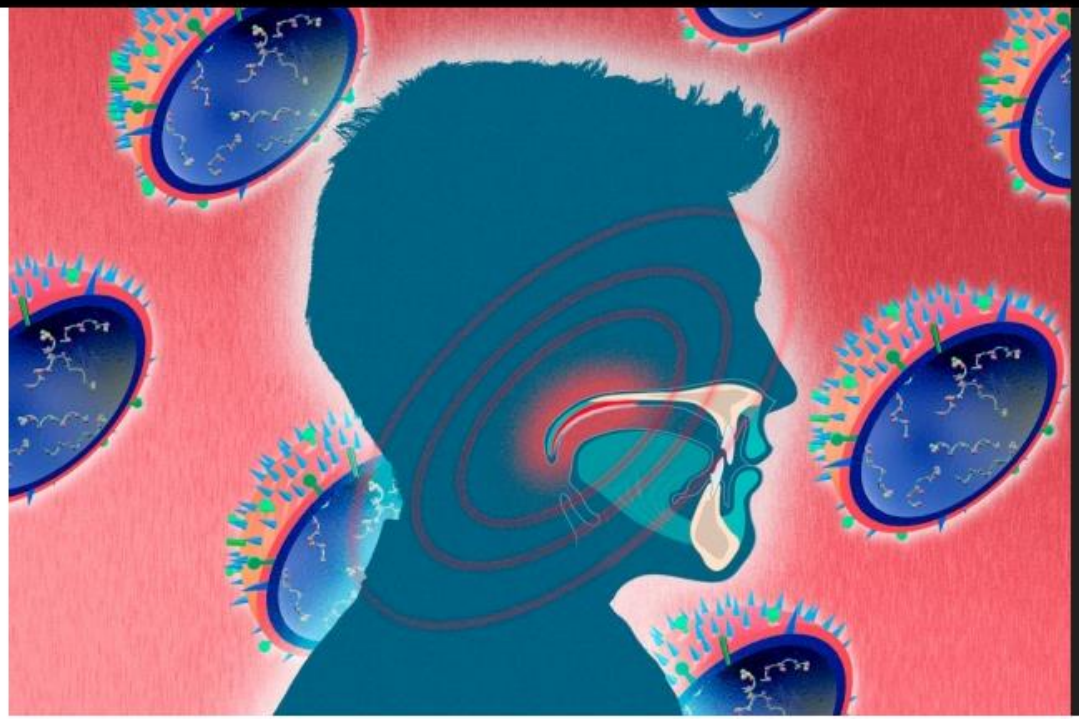

FULL SCREEN

MIT researchers find the soft palate (in red) — the soft tissue at the back of the roof of the mouth — plays a key role in how the flu virus (in background) travels through the air.

Illustration: Jose-Luis Olivares/MIT (flu Virus illustrations courtesy of NIH)

How flu viruses gain the ability to spread

New study reveals the soft palate is a key site for evolution of airborne transmissibility.

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antibiotics crisis

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The Antibiotic Resistance Crisis
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4378521/
by CL Ventola - 2015 - Cited by 139 - Related articles
This is the first of two articles about the **antibiotic** resistance **crisis**. Part 2 will discuss strategies to manage the **crisis** and new agents for the treatment of bacterial ...
THE HISTORY AND ... · CAUSES OF THE ... · ANTIBIOTIC-RESISTANT ...

Antibiotic crisis bigger than Aids as common infections will kill, WHO ...
www.telegraph.co.uk › News › Health › Health News
Apr 30, 2014 - Common infections and minor scratches could soon kill because **antibiotics** are becoming useless against new superbugs, World Health Organisation warns. ... The **crisis** is bigger and more urgent than the Aids epidemic of the 1980s, it was warned. ... Dr Lo Fo Wong warned that **antibiotic** ...

Too few antibiotics in pipeline to tackle global drug-resistance crisis ...
https://www.theguardian.com › Society › Antibiotics ▾
Sep 19, 2017 - Too few **antibiotics** are in the pipeline to tackle the global **crisis** of drug resistance, which is responsible for the rise of almost untreatable ...

Could ants be the solution to antibiotic crisis? | Society | The Guardian
https://www.theguardian.com › Environment › Antibiotics ▾
Sep 24, 2016 - Bacterial defences of fungus-farming ants could help in medical battle against superbugs.

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Flu season: Fewer than half of Americans vaccinated, officials call for nearly everyone to get a shot

- Fewer than 50 percent of all Americans were vaccinated against the flu last season.
- Officials want at least 70 percent of people to get a flu shot.
- This season, officials say people should only get an injectable vaccine, not a nasal spray vaccine.

Dan Mangan | @_DanMangan

Published 11:29 AM ET Thu, 28 Sept 2017

Ejemplo

- **Problema:** Los niños cuando van a la escuela primaria están expuestos a numerosas bacterias y virus, particularmente la gripe. Esto provoca que enfermen fácilmente y se conviertan en vectores de infección para sus familias.

- **Solución:** Un caramelo proporcione una dosis de la vacuna contra la gripe estacional y refuerce el sistema inmunológico de los niños utilizando una combinación de aminoácidos y vitaminas.

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D Evans, S Cauchemez… - Journal of Infectious …, 2009 - academic.oup.com
… Article Navigation. "Prepandemic" Immunization for Novel Influenza Viruses, "Swine **Flu**" **Vaccine**, Guillain-Barré Syndrome, and the Detection of Rare Severe Adverse Events. David Evans David Evans. 1. The Wellcome Trust …
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Effectiveness of trivalent **flu vaccine** in healthy young **children** [HTML] aappublications.org
CC Blyth, P Jacoby, PV Effler, H Kelly, DW Smith… - Pediatrics, 2014 - Am Acad Pediatrics
BACKGROUND: There are few studies evaluating the effectiveness of trivalent influenza vaccination (TIV) in young **children**, particularly in **children**< 2 years. The Western Australian Influenza **Vaccine** Effectiveness Study commenced in 2008 to evaluate a program providing …
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Strategy for distribution of influenza **vaccine** to high-risk groups and **children** [HTML] oup.com
IM Longini Jr, ME Halloran - American journal of epidemiology, 2005 - academic.oup.com
… of **children** against influenza. **Vaccine** (in press). 8. Patel R, Longini IM, Halloran ME. Finding optimal vaccination strategies for pandemic influenza using genetic algorithms. J Theor Biol. (in press). 9. Centers for Disease Control and Prevention. Who should get **flu vaccine** this …
Cited by 217 Related articles All 10 versions

Recommendations for the administration of influenza **vaccine** in **children** allergic to egg [PDF] soton.ac.uk
M Erlewyn-Lajeunesse, N Brathwaite, JSA Lucas… - BMJ, 2009 - bmj.com
… anaphylaxis after influenza **vaccine** occurred in a child with egg allergy during the 1970s.11 In 1946 Ratner and Untracht described two cases of adult anaphylaxis related to **flu vaccine** and egg intolerance from their literature review; they also documented two **children** who had …
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[HTML] Immunogenicity of a monovalent 2009 influenza A (H1N1) **vaccine** in infants and **children**: a randomized trial [HTML] jamanetwork.com
T Nolan, J McVernon, M Skeljo, P Richmond, U Wadia… - Jama, 2010 - jamanetwork.com
… Update on influenza A (H1N1) 2009 monovalent vaccines. MMWR Morb Mortal Wkly Rep.

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Volume 161, Issue 4
15 February 2005

Article Contents

Abstract

THE CURRENT INFLUENZA VACCINE CRISIS

AN ALTERNATIVE STRATEGY

A POSSIBLE FUTURE STRATEGY

ACKNOWLEDGMENTS

References

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Strategy for Distribution of Influenza Vaccine to High-Risk Groups and Children FREE

Ira M. Longini, Jr., M. Elizabeth Halloran

American Journal of Epidemiology, Volume 161, Issue 4, 15 February 2005, Pages 303–306,
https://doi.org/10.1093/aje/kwi053
Published: 15 February 2005

Abstract

Despite evidence that vaccinating schoolchildren against influenza is effective in limiting community-level transmission, the United States has had a long-standing government strategy of recommending that vaccine be concentrated primarily in high-risk groups and distributed to those people who keep the health system and social infrastructure operating. Because of this year's influenza vaccine shortage, a plan was enacted to distribute the limited vaccine stock to these groups first. This vaccination strategy, based on direct protection of those most at risk, has not been very effective in reducing influenza morbidity and mortality. Although it is too late to make changes this year, the current influenza vaccine crisis affords the opportunity to examine an alternative for future years. The alternative plan, supported by mathematical models and influenza field studies, would be to concentrate vaccine in schoolchildren, the population group most responsible for transmission, while also covering the reachable high-risk groups, who would also receive considerable indirect protection. In conjunction with a plan to ensure an adequate vaccine supply, this alternative influenza vaccination strategy would help control interpandemic influenza and be instrumental in preparing for pandemic influenza. The effectiveness of the alternative plan could be assessed through nationwide community studies.

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US government plans to use drones to fire vaccine-laced M&Ms near ...
https://www.theverge.com/2016/7/12/.../ferret-candy-vaccine-drones-montana
Jul 12, 2016 - The US Fish and Wildlife Service (USFWS) has a plan to save the endangered black-footed ferret, and it involves **candy**. The agency has proposed delivering **vaccines** to a ferret colony in Montana using drones capable of shooting **vaccine**-laced M&M's, The Guardian reports. According to the USFWS, the ...

Candy and the Polio Vaccine | Candy Professor
https://candyprofessor.com/2009/10/12/candy-and-the-polio-vaccine/
Oct 12, 2009 - As early as 1959, scientists and confectioners in the U.S.S.R. had collaborated to produce a **candy** that could deliver the live virus. We don't know what the confection tasted like, but it must have tasted pretty good. Over 1.5 million Russian children were successfully immunized by eating the **vaccine candy**.

The Candy-Like Vaccine - Softpedia News
news.softpedia.com › News › Science › Microbiology/Genetics
May 15, 2007 - Rotavirus is a dangerous pathogen for children, elders and persons with a weak immune system. It induces severe diarrhea and vomiting in children, killing roughly 600-650,000 annually, aged 0-2 years, mainly in developing nations. Rotavirus **vaccine** is currently delivered in a liquid or freeze-dried form ...

Cloudbric: Candy, Vitamin, Painkiller, or Vaccine? – Cloudbric – Medium
https://medium.com/.../cloudbric-candy-vitamin-painkiller-or-vaccine-6ca44565a905
Jul 24, 2015 - Which one is your product: a **candy**, a vitamin, or a painkiller? At Cloudbric, we asked ourselves this, and none of the three suited our web app security service. A few years ago after a new startup…

Sabin Monovalent Oral Polio Vaccines: Review of Past Experiences ...
https://academic.oup.com/cid/article/33/4/531/277521

Análisis Competitivo

- Barreras de entrada
  - Costo de desarrollo

Ejemplo

- **Propuesta de valor:** Una caja con 10 caramelos masticables tipo gominolas, con sabor a frutas y la formulación médica FLUVAX18, que suministra una dosis de la vacuna contra la gripe a niños en edad escolar.

Ejemplo

- Clientes:
  - Padres
  - Niños en edad escolar (5 a 12 años)
  - Pediatras
  - Colegios
  - Farmacias, parafarmacias y supermercados
  - Centros de salud y seguros médicos, etc.

¿Por qué es innovadora?

- Problemas de higiene y alimentación inherentes
- Problemas de alergias estacionales
- Bajo take-up del programa de vacunación
- Dificultad para generar rutinas de protección en la familia (otro)
- Nosotros ofrecemos una alternativa cómoda, de bajo costo y de acción directa en el punto de interacción, enfocada en uno de los factores de transmisión de la gripe.

Beneficios adicionales

- Reduce el riesgo de enfermar en un 40 a 60%
- Menos riesgo de hospitalización y muerte en niños
- Herd inmunity
- Otros

¿Cómo estimar la demanda?

- Primero verificar que es un problema real, que la solución es factible y que genera interés en los clientes

- Definir el perfil de los clientes:
  - Familias con niños entre 5 y 12 años que vivan en los EEUU

- Traducirlo en números:
  - 25 millones (US Census Bureau, 2014)

¿Cómo estimar la demanda?

- Calcular el TAM:
  - El gasto anual de una familia promedio en salud en los EEUU es de 25000 USD (2015)
  - El gasto en tratamiento de bronquitis es de 226 USD al año (13.3% de ello es en medicamentos) (F1, F2)
  - Gasto en antibióticos
  - Tomamos el 25% de (226*0,133) = 7.5 USD * 25 millones = 187 500 000 USD / año

¿Cómo estimar la demanda?

- Calcular el SAM:
  - Aquí necesitamos fuentes primarias
  - Un tercio de los estadounidenses usan medicina alternativa (2013)
  - 187 500 000 * 0.3 = 56 250 000 USD/año

¿Cómo estimar la demanda?

- Calcular el target:
  - Aquí necesitamos fuentes primarias
  - Supongamos que el primer año cubramos un 10% del TAM = 5 625 000 USD
  - ¿Unidades? A un precio que no puede ser mayor a 5 USD serían 1 125 000 unidades/año
  - Aproximadamente 3200 cajas de producto por día

Ahora conocen un camino para estimar sus demandas

¡Hagámoslo!

Tarea

- Estimar el TAM y SAM de sus proyectos
- Envíenme sus respuestas, con fuentes debidamente registradas, antes del Sábado

Estrategia de Investigación de Fuentes Primarias

- Piensen en las herramientas y la estrategia de investigación que van a aplicar
  - Las preguntas que han preparado para cada tipo de cliente
  - Tamaño de la muestra, etc.

¡Hora de comentarlas!

¡Gracias por su atención!

No olviden las tareas y nos vemos la próxima clase.