

BINF6399 - Principles of Team Science



UNC CHARLOTTE

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RAW Lab

Lecture 5 - Tuesday Feb 23rd, 2021

Learning Objectives

- Lean canvas model
- Customer Discovery 102
- Managing Research Teams (funding)
- Managing Research Teams (interpersonal)

Lean canvas model

PROBLEM	SOLUTION	UNIQUE VALUE PROPOSITION	UNFAIR ADVANTAGE	CUSTOMER SEGMENTS
	KEY METRICS		CHANNELS	
COST STRUCTURE			REVENUE STREAMS	

Lean canvas model

PROBLEM	SOLUTION	UNIQUE VALUE PROPOSITION	UNFAIR ADVANTAGE	CUSTOMER SEGMENTS
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COST STRUCTURE			REVENUE STREAMS	

You Try – in Group

Lean canvas model

Business Model Canvas **Netflix**

Key partners

- Content owners
- Internet Service Providers
- Amazon Web Services
- Filmmaker "guilds" and individuals
- Cinemas, Theaters
- Prizes and film festivals
- Influencers
- IP holders
- Regulators (FCC, FTC)
- Investors

Key activities

- Tech & development
- Content licensing and acquisition
- Content creation
- Marketing
- Analytics

Key resources

- Brand
- App/website
- Content
- Algorithms & data
- Staff, actors, filmmakers
- Prizes

Value proposition

- Content library
- No ads
- On-demand
- Ability to binge watch: - Simple pricing
- High-speed connection
- Freemium
- Personalisation
- Localisation

Customer relationships

- Self-service (App)
- User support
- Social media
- Self-control, trust
- Recommendation system (engage)

Channels

- Desktop, tablet, mobile - App stores
- Support channels
- Social media
- Media outlets
- Film festivals

Customer segments

- Micro segmentation: 2,000 taste clusters
- User segmentation (usage parameters):
 - Technology
 - Viewing behaviors
 - Browsing behaviors

Macro segments / ad targeting (non-users):

- Geo-demographic
- other macro

Cost structure

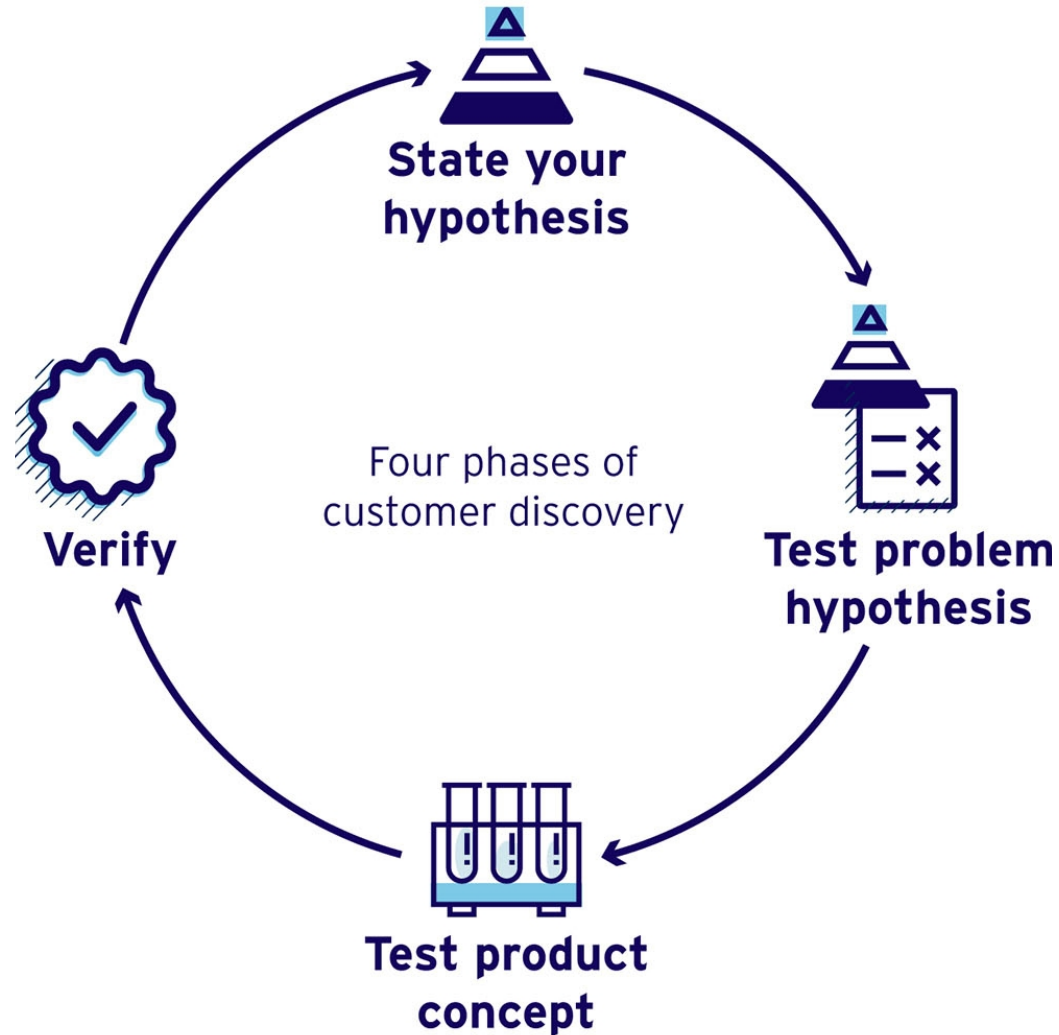
- Marketing
- Technology
- General & Admin
- Costs of revenue:
 - Content amortisation
 - Payment processing fees
 - Customer service
 - Streaming delivery costs
 - Operations costs

Revenues

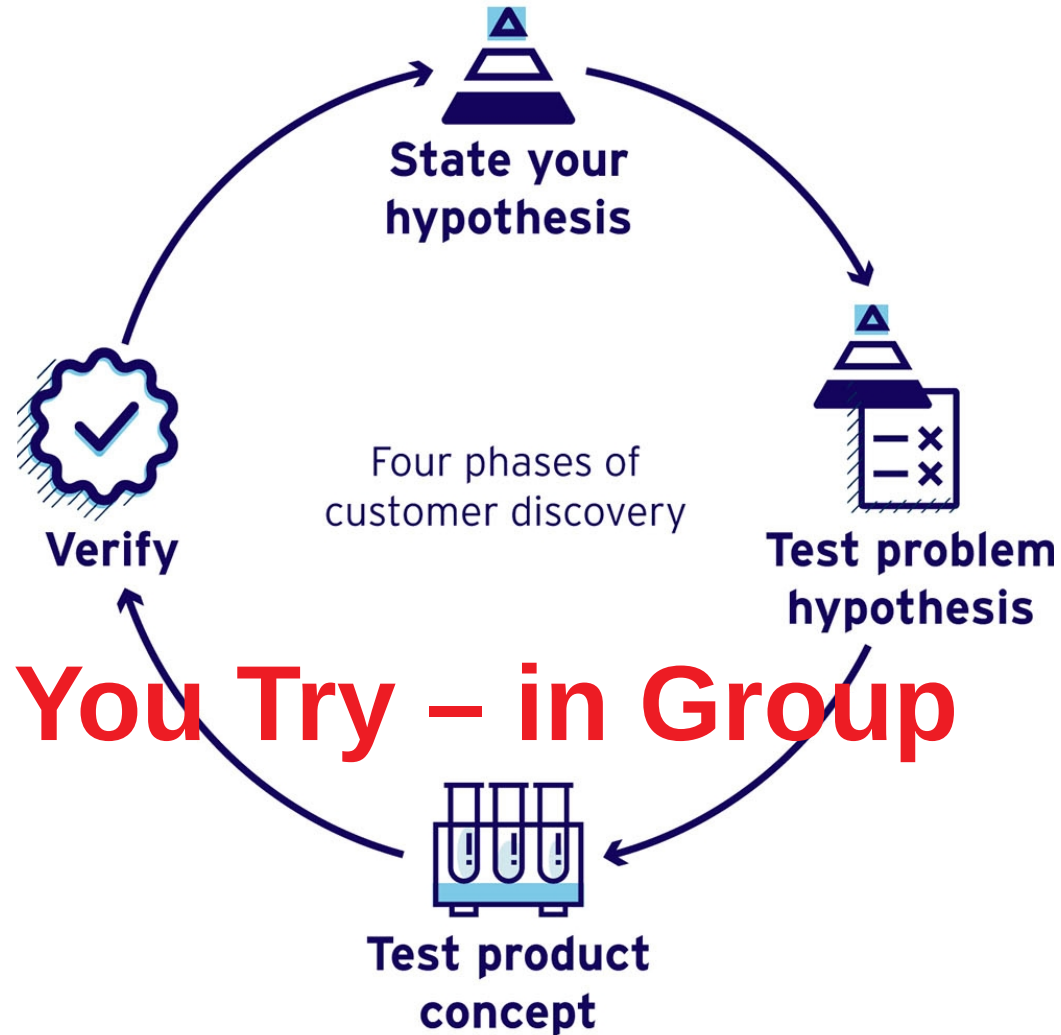
- Subscription fees (3 plans):
 - International streaming
 - US streaming
 - US DVD
- Other, minor revenues
- Potential future revenue stream:
 - Licensing out Netflix-owned content

Understanding Netflix: www.innovationtactics.com/Netflix

Customer Discovery 102



Customer Discovery 102



Customer segment

	Customer 1 DOD Field Medic	Customer 2 TSA Screening Agent	Customer 3 Prison guard	Customer 4 Driver	Customer 5 At home
Description	18-35, Tactically motivated	25-65, Large Veteran Population, Likely Married	18-55 Focus on guard safety, riot control	18-70 Focus Safety, obtaining lots of rides	18-90 General health
Jobs	Infection Control Sterilization Humanitarian Missions	Security Screening Crowd Control Incident Response Management	Infection Control Safety	Transportation	Many
Pains	Limited Resources	Manpower Shortages (illness) Repetitive Work Fear of Unknown	Manpower Shortages (illness) Limited rapid testing capabilities	Illness - lost wages Higher health costs	Illness - lost wages Higher health costs
Gains	Proactive Containment of Pathogens Conservation of Manpower Resource	Allows Contagion Isolation/Containment Reduce Spread of Threat Designer Pathogen Detection	Proactive Containment of Pathogens Conservation of Manpower Resource	Less sick days Healthier life Better will being	Less sick days Healthier life Better will being

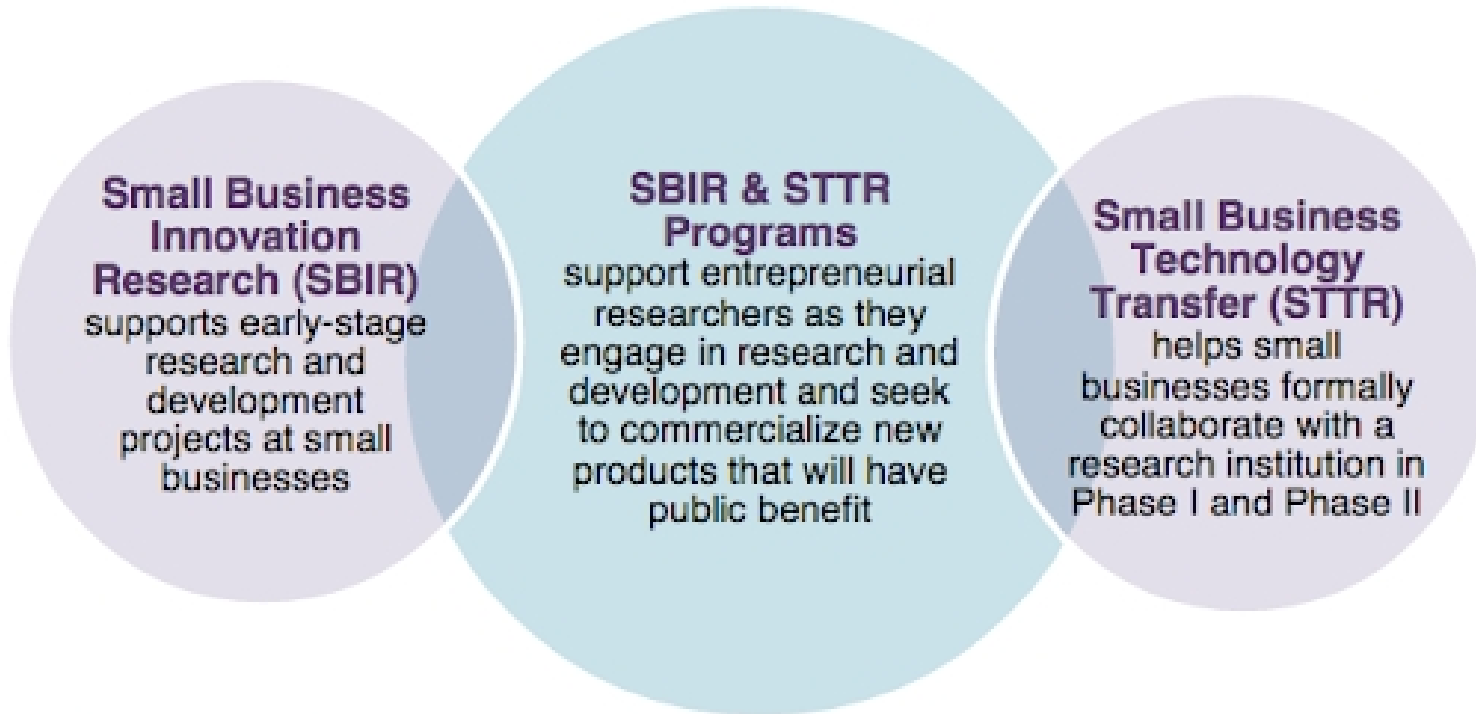
Customer segment

	Customer 1	Customer 2	Customer 3	Customer 4	Customer 5
Description					
Jobs					
Pains					
Gains					

You Try – in Group

Management of Research teams - funding

- Finding funding for your research (NIH, NSF, DARPA, SBIR/STTR, Angel, VC)



Management of Research teams - funding

	SBIR	STTR
Do you want to work with a research institution?	Cool, but you'll only be able to sub-contract a MODEST amount of the work to the research institution	Perfect, you have to subcontract a LARGE amount of the work to the research institution
Is the principle investigator already working for a research institution that they'd like to keep working with?	N/A	The Principle Investigator may be able to keep their full time job at the research institution rather than having to spend 51% of their time on the SBIR
Do you think you'll pursue VC money later	No issue here	VC may get nervous that the institutional partner has claims on the IP

Management of Research teams - funding

Agency	Program Supported		Topic Type	
	SBIR	STTR	Grants	Contracts
Department of Defense	X	X		X
Department of Health & Human Services	X	X	X	X
Department of Energy	X	X	X	
National Science Foundation	X	X	X	
National Aeronautics & Space Administration	X	X		X
United States Department of Agriculture	X		X	
Department of Homeland Security	X			X
National Institute of Standards and Technology	X		X	
National Oceanic & Atmospheric Administration	X		X	
Department of Transportation	X			X
Department of Education	X			X
Environmental Protection Agency	X			X
Key				
Grants Only	Contracts Only			
Both Grants & Contracts	Cooperative Agreement			

Management of Research teams – funding

Metric of comparison	Angel Investor	Venture Capital
Type of entity	Individual (or group)	Registered firm
Source of money	Personal	Borrowed from limited partners
Stage of Investment	Early stage (late tech dev. or early market entry)	Later stage (Post initial revenue & launch mostly)
Size of Investment (1 round for early stage)	500k USD typically	1-10 Mill. USD typically
Non-financial benefits	Mentoring - informal	Mentoring - formal
Due Diligence	Often not done, a lot of emphasis on teams when done	Done strictly, emphasis on team and financial health
Expectations-Financial	Moderate level of returns	High level of returns quickly
Tendency to control startup	Depends on case to case, generally modest	Modest to High generally

Management of Research teams (interpersonal)

- *Developing a team to conduct the research*
- *Maintaining a sense of cohesion within your research team, especially when funding is uncertain*
- *Leading your team toward a common goal*

Management of Research teams (interpersonal)

- Supervising the project's funding, which includes accounting for every dollar that you spend*
- Mentoring team members in their individual career goals*

Management of Research teams (interpersonal)

- Juggling personality and work styles so that everyone feels validated and satisfied***
- Resolving conflicts that inevitably arise when different personalities work closely together***