भारतीय प्रबंध संस्थान बेंगलूर

INDIAN INSTITUTE OF MANAGEMENT
BANGALORE

Consumer Preferences for Market Based Healthcare Models: Leveraging Innovations for Low Income Families in India

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Coverage

- Objectives
- Methodology
- Analysis
- Findings

Objectives

- To identify factors that are important to deliver affordable healthcare to low-income patients in India.

Methodology

- Two stage with multiple phases and diverse participants
- Stage 1
  - Expert panel (online)
  - Workshops
- Stage 2
  - Patients and family members
  - Qualitative through semi-structured interviews at primary health care centers & a health camp on choice of hospitals for hospitalization
  - Quantitative through multiple choice questions and choice based conjoint analysis

Methodology …2

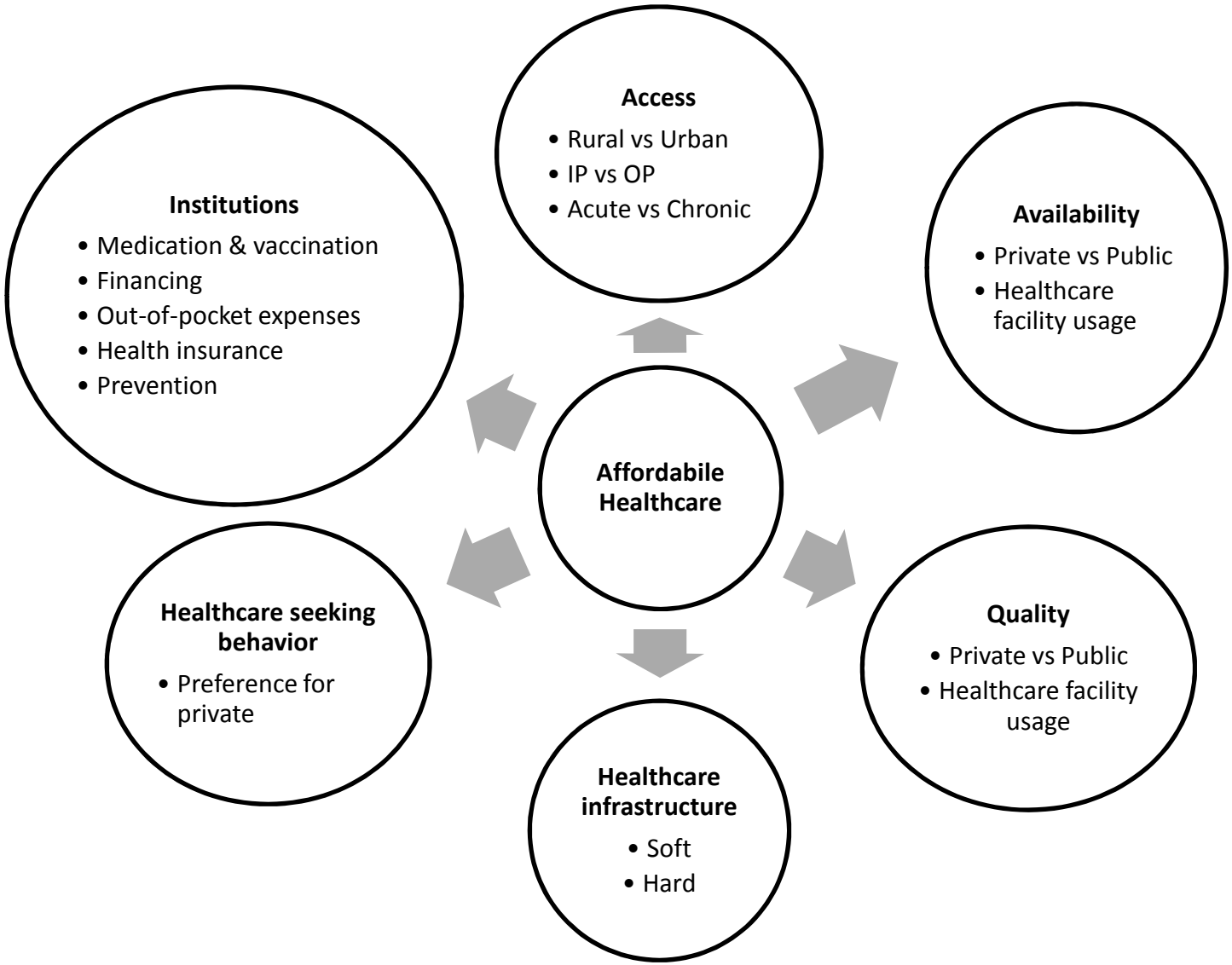
- Stage 1 : To understand factors that are important to deliver affordable healthcare to patients in India.
  - "Prospects in Healthcare in India" by the Swiss-Indian Roundtable in St. Gallen on April 3, 2013
  - Expert panel (online)
  - "Affordable Healthcare in India" by the Young Professional Network of the Swiss-Indian Chamber of Commerce (YPN-SICC), Zurich on October 31, 2013
  - Workshop on 'Affordable Healthcare in India' at IIM Bangalore (November 11-12, 2013) – Over a dozen experts & > 60 participants

Methodology ..2

- Stage 2 (Consumer Centric)
- Qualitative through semi-structured interviews

– Phase 1: Developed a guide for in-depth interviews with patients at primary healthcare centers
– Interviewed 17 patients on their perspective on accessible and affordable healthcare.
– Strong influence of ‘social capital’ in the choices made by patients / their family members.
– Phase 2: Incorporated questions on the influence of ‘word of mouth’ from relatives / friends / neighbors on the choice of doctor and hospital
– 41 respondents
– Criteria used by patients and their family members to finalise the attributes and levels for conjoint modelling.
– Phase 3: Quantitative - multiple choice questions and choice based conjoint analysis
– > 200 respondents

Health Care Affordability – Key Elements



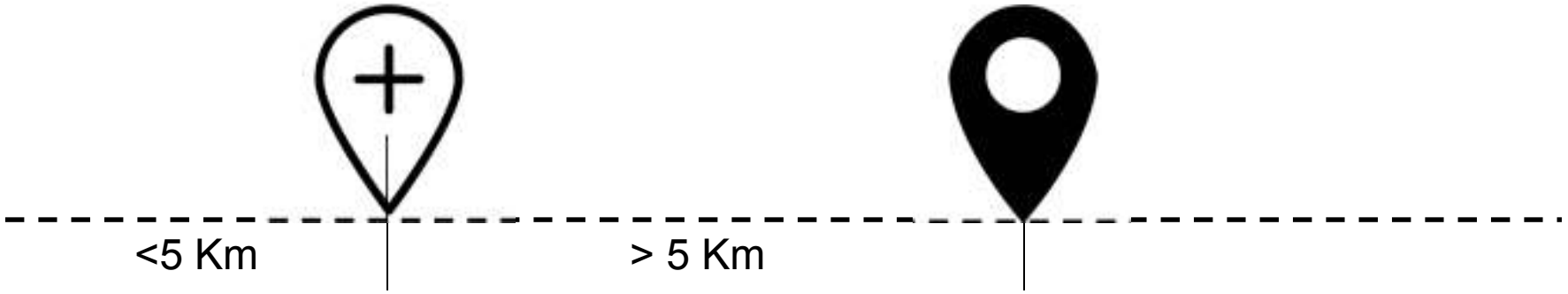
Consumer Study

Attribute	Level 1	Level 2
Distance	Upto 5 kms	More than 5 kms
Réputation	High	Low
Delivery Method	Face to face	Telemedicine
Payment	Upfront	Staggered (Insurance)
Price	Low (Upto Rs 100 for consultation)	High (Above Rs. 100 for consultation

Data collected from 200 low-income patients

VISUAL ELEMENTS

Distance



Reputation

High

Low

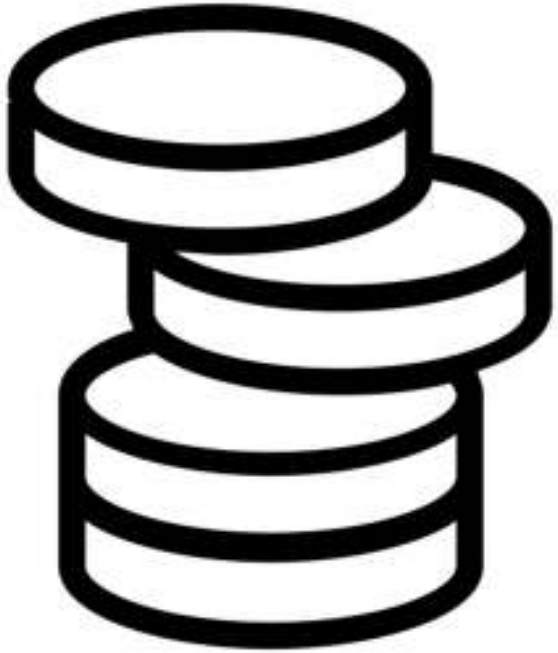
Delivery Method

Face to Face

Tele Medicine

Payment

EMI/Staggered/Insurance



Full Upfront

Price

Low

High

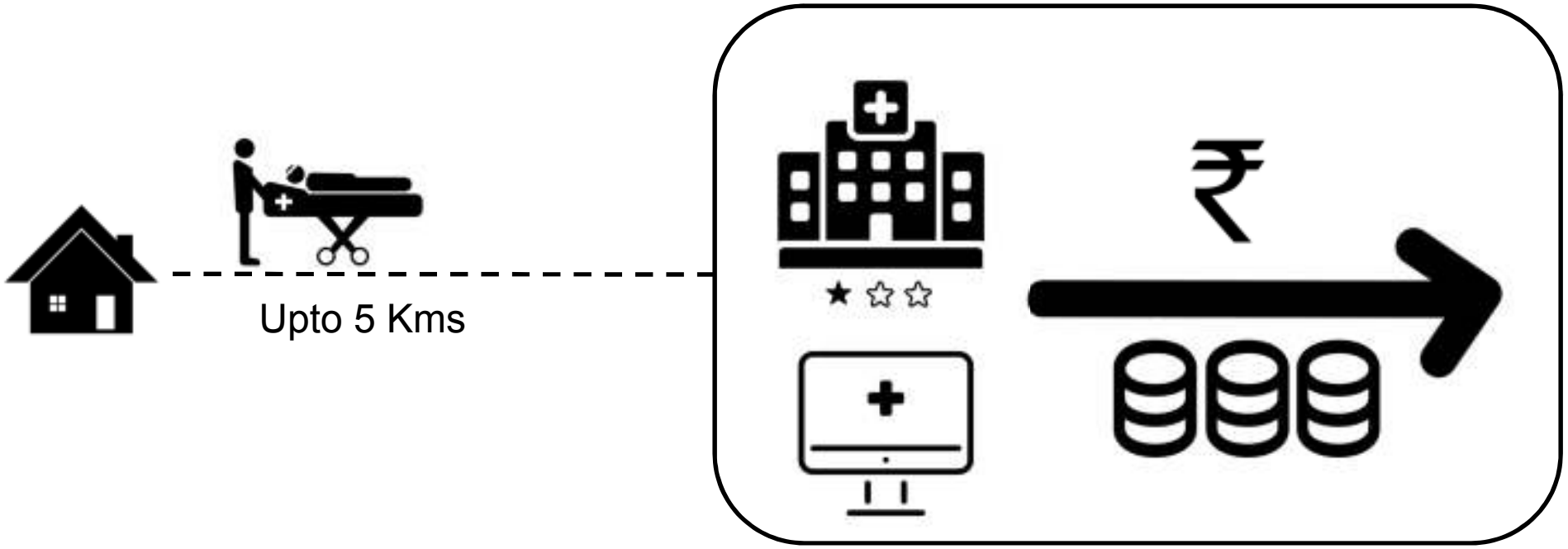
CHOICE SETS

- 32 potential concepts
- Respondent shown sets of 4 concepts, 8 times (4X8=32)
- Respondent selects 1 concept each time (8 selections)

Example

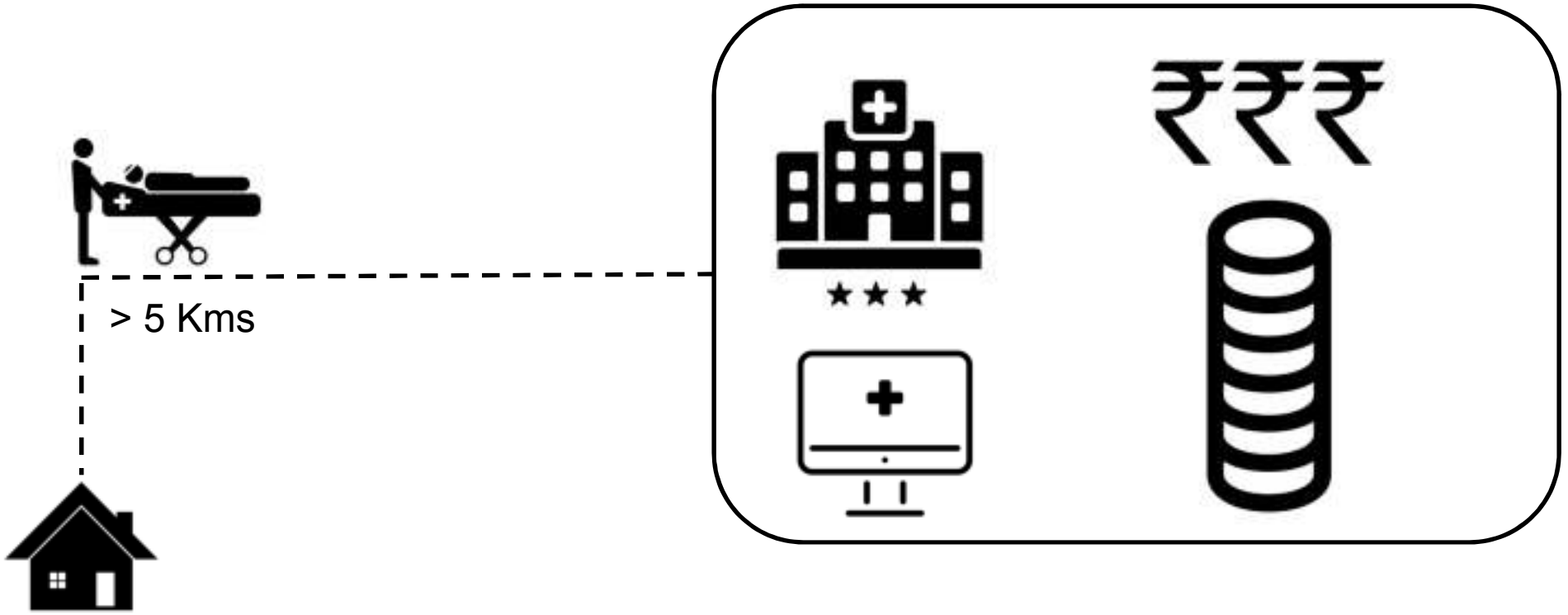
	Concept 1	Concept 2	Choice 3	Choice 4
Distance	Up to 5km	More than 5 km	More than 5 km	Up to 5km
Reputation	Low	High	Low	High
Delivery	Telemedicine	Telemedicine	Face to face	Face to face
Payment Method	Staggered (Insurance)	Full Upfront	Full Upfront	Full Upfront
Price for Consultation	Low (< Rs. 100)	High (> Rs. 100)	Low (<Rs 100)	Low (<Rs 100)

Choice 1.1



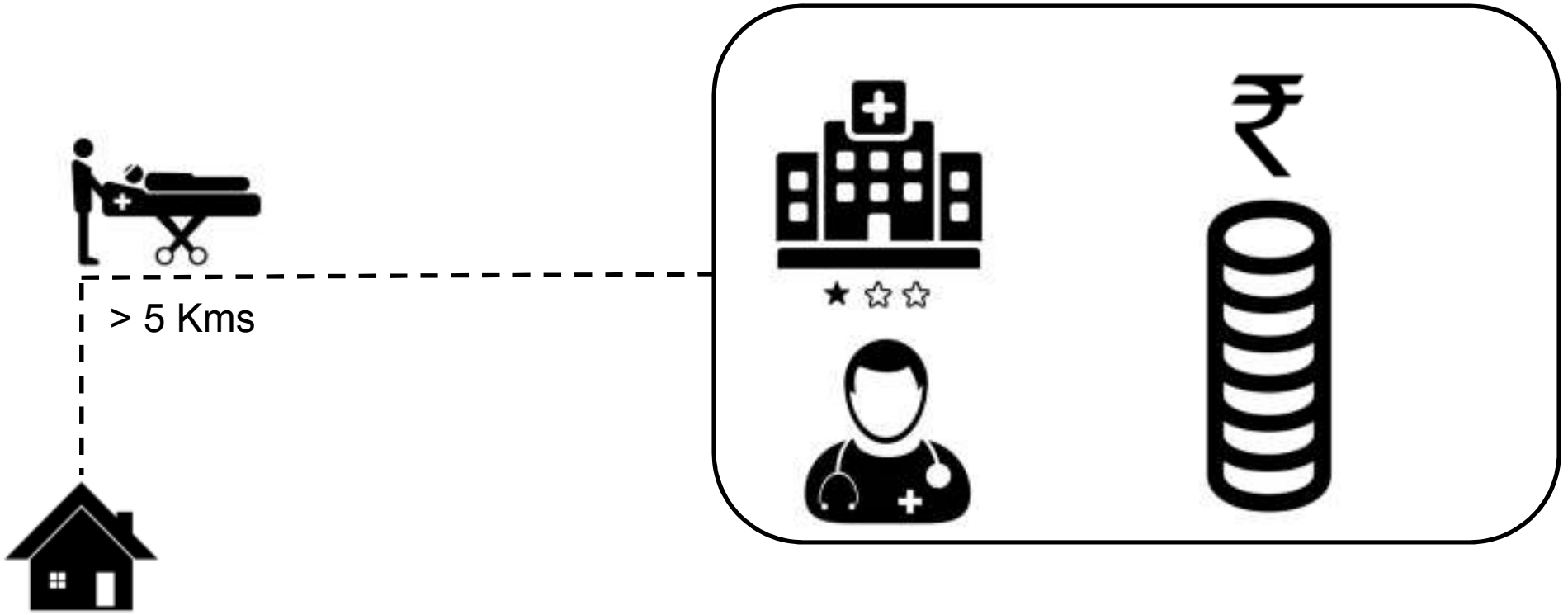
Distance	Upto 5 Kilometers
Reputation	Low
Delivery	Telemedicine
Payment Method	Staggered (Insurance)
Price	Low (Upto Rs. 100 for consultation)

Choice 2.1



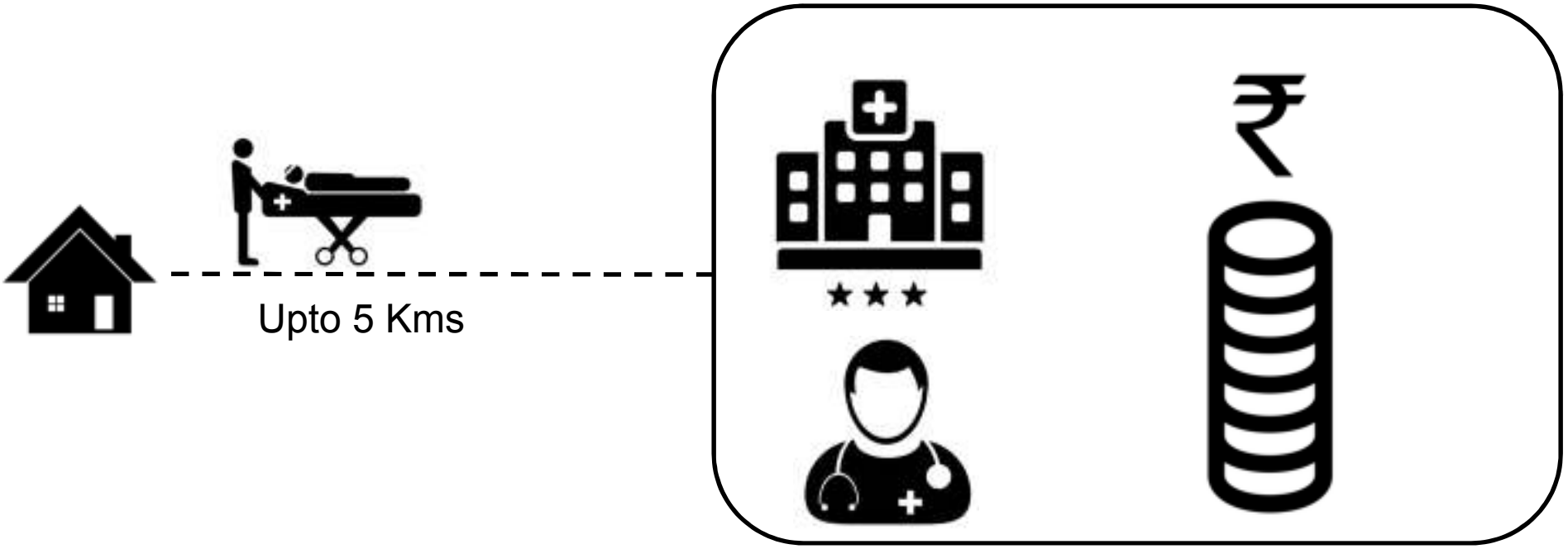
Distance	More than 5 Kilometers
Reputation	High
Delivery	Telemedicine
Payment Method	Low Upfront
Price	High (Above Rs. 100 for consultation)

Choice 3.1



Distance	More than 5 Kilometers
Reputation	Low
Delivery	Face to face
Payment Method	Low Upfront
Price	Low (Upto Rs. 100 for consultation)

Choice 4.1

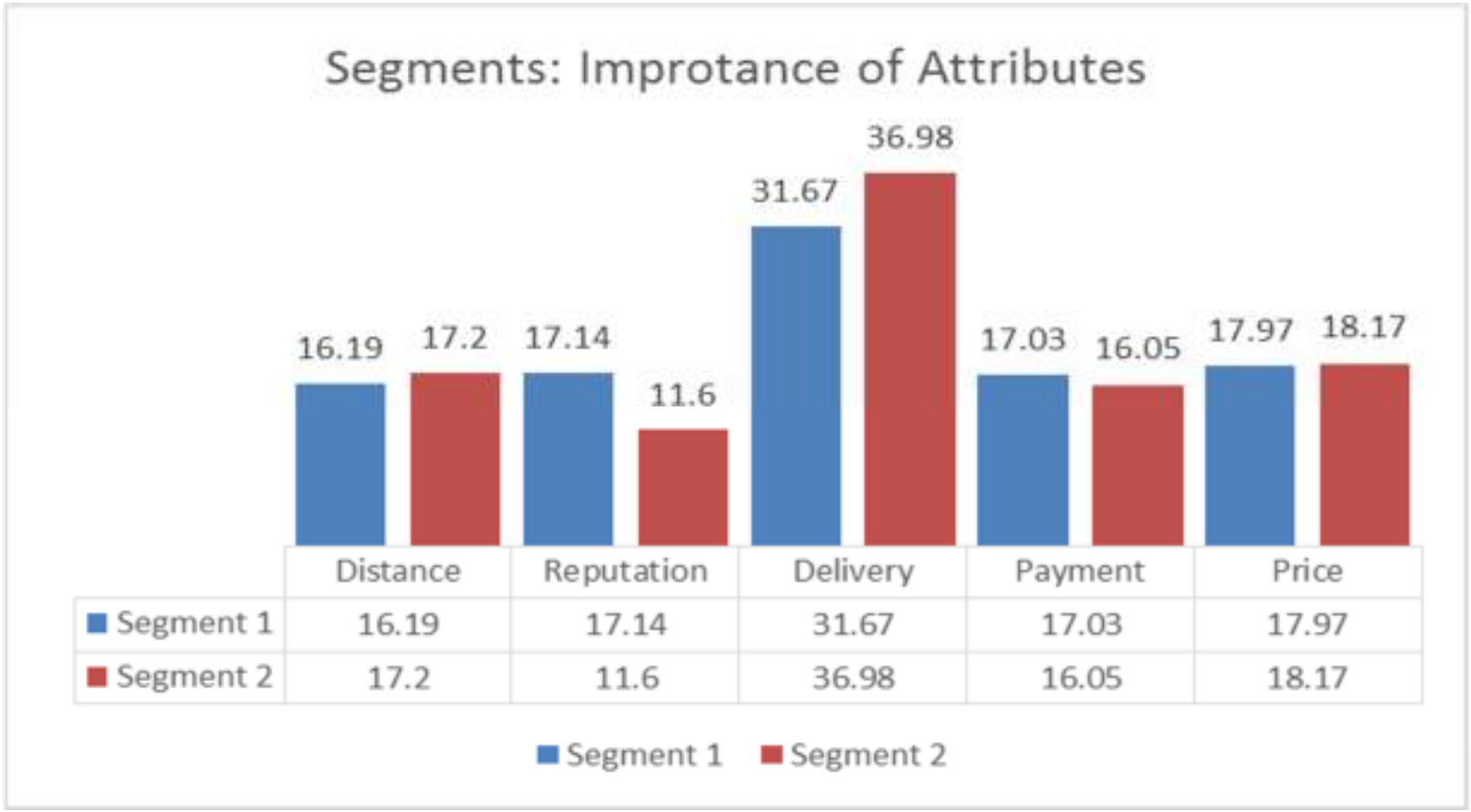


Distance	Upto 5 Kilometers
Reputation	High
Delivery	Face to face
Payment Method	Low Upfront
Price	Low (Upto Rs. 100 for consultation)

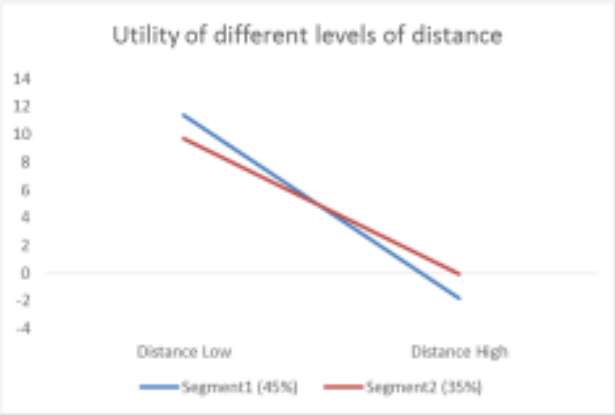
Segment Profiles

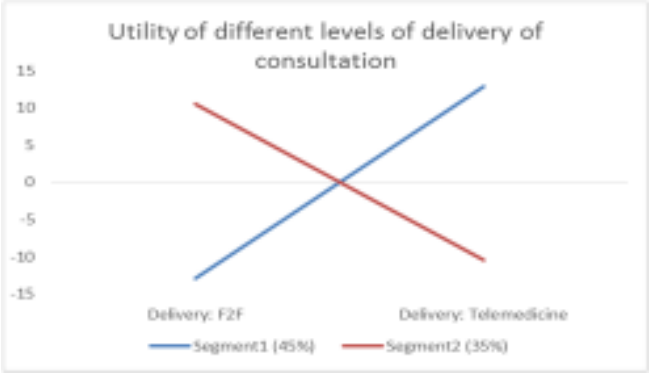
	Segment 1 (35%)	Segment 2 (45%)
Distance Low	9.66	11.37
Distance High	-0.07	-1.78
Reputation high	-3.28	6.96
Reputation Low	3.28	-6.96
Delivery: F2F	10.47	-12.85
Delivery: Telemedicine	-10.47	12.85
Payment: Upfront	-4.54	6.92
Payment: Staggered	4.54	-6.92
Price: Low	5.14	7.29
Price: High	-5.14	-7.29
	Price and distance sensitivity lower. Reputation insensitive. Prefers staggered payment and high preference towards F2F delivery	Price, distance and reputation sensitive. Likes telemedicine and upfront payment

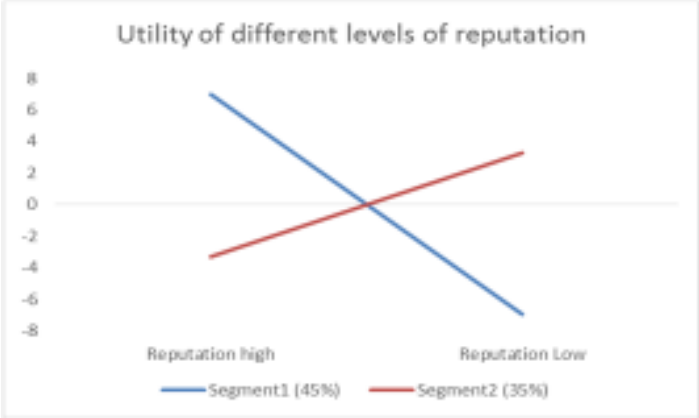
Segments: Importance of Attributes



Part Worth Utilities







MULTIPLE DELIVERY SCENARIOS FOR AN EYE CARE SERVICE

Leverages Innovations through Technology, Knowledge and Institutions[1,2 & 3]

[1]Shirish Srivastava and *G Shainesh* (2015), 'Bridging the Service Divide Through Digitally Enabled Service Innovations: Evidence from Indian Healthcare Service Providers' , *MIS Quarterly*, Vol. 39, No. 1 (March), pp. 245-267.

[2]Shainesh G. and Suhruta Kulkarni (2014), 'Narayana Nethralaya – Expanding Affordable Eyecare' http://globalens.com/casedetail.aspx?cid=1429385 (April)

[3]Shwetha Mangalesh, Anand Vinekar, Suhruta Kulkarni, Shainesh G, Chaitra Jayadev, Noel Bauer, Bhujang Shetty (2015), 'Estimating the cost of ROP treatment and services: A Mathematical Model', *Investigative Ophthalmology & Visual Science*, June, 56 (7):946. http://iovs.arvojournals.org/article.aspx?articleid=2336669&resultClick=1#.VeVvY7YJmWo.mailto

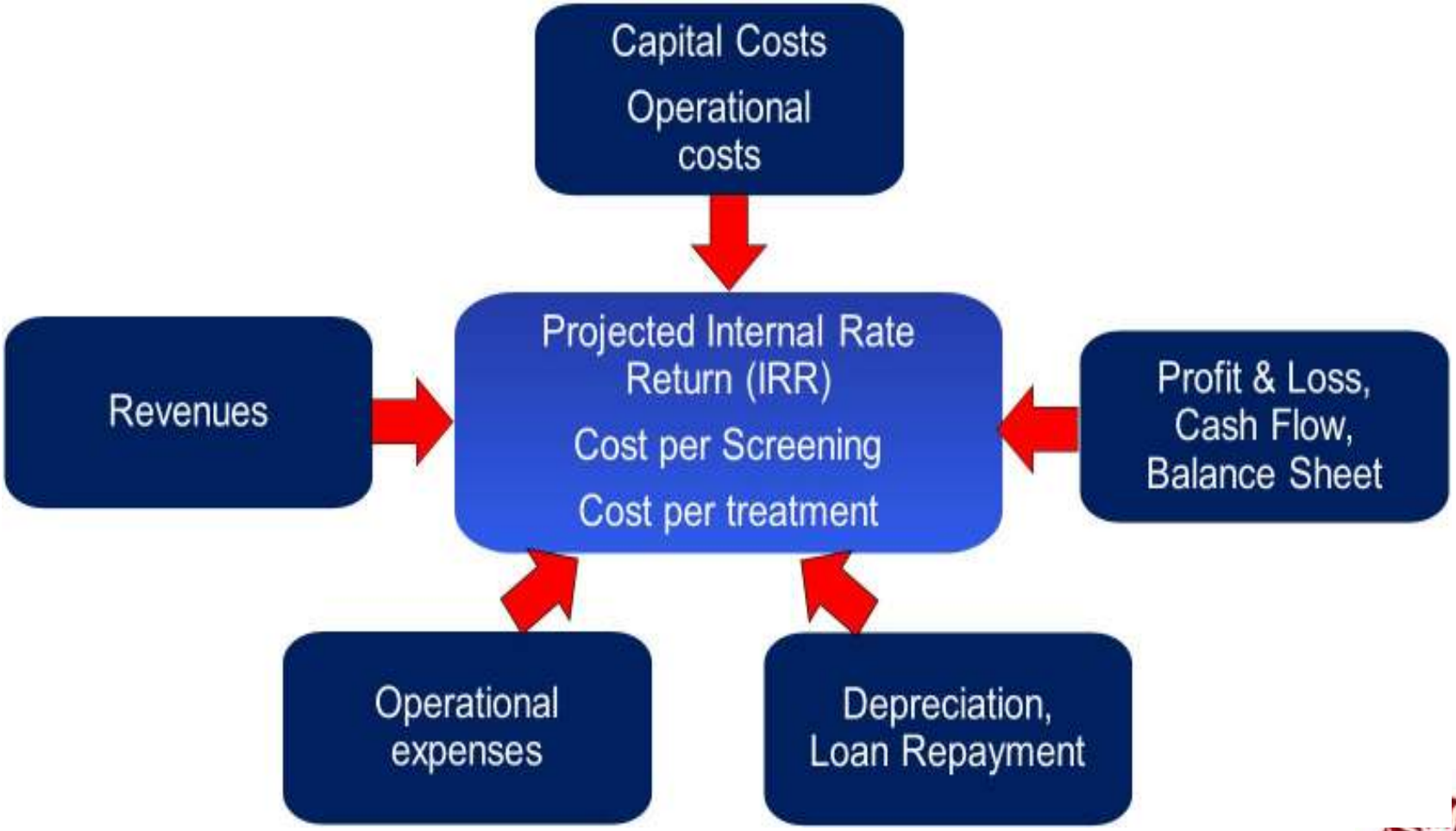
Cost of ROP Treatment Services Delivery

Scenarios

1. KIDROP screening and treatment model (non-physician tele-ROP)
2. ROP specialist screens and treats at his/her single private center
3. ROP specialist screens and treats at another center(s) within city limits
4. ROP specialist performs screening and treatment at a general/teaching hospital

Source: Shwetha Mangalesh, Anand Vinekar, Suhruta Kulkarni, Shainesh G, Chaitra Jayadev, Noel Bauer, Bhujang Shetty (2015), 'Estimating the cost of ROP treatment and services: A Mathematical Model', *Investigative Ophthalmology & Visual Science*, June, 56 (7):946. http://iovs.arvojournals.org/article.aspx?articleid=2336669&resultClick=1#.VeVvY7YJmWo.mailto

Schematic Representation of Inputs and Outcomes



Cost of ROP Treatment Services Delivery : Scenario 1

KIDROP - non-physician based tele-ROP model	
Capital Costs (USD)	131,685
Number of ROP Screenings (annual)	12000
Number of ROP Treatments (annual)	200
Percentage of free screenings & treatments	50%
Percentage of subsidized screenings & treatments	30%
Subsidy per screening & treatment	50%
Cost per screening (USD)	6.15
Cost per treatment USD)	49.78
Project Internal Rate Return (IRR)	1.22%

Source: Shwetha Mangalesh, Anand Vinekar, Suhruta Kulkarni, Shainesh G, Chaitra Jayadev, Noel Bauer, Bhujang Shetty (2015), 'Estimating the cost of ROP treatment and services: A Mathematical Model', *Investigative Ophthalmology & Visual Science*, June, 56 (7):946. http://iovs.arvojournals.org/article.aspx?articleid=2336669&resultClick=1#.VeVvY7YJmWo.mailto

Cost of ROP Treatment Services Delivery : Scenario 2

ROP specialist screens and treats at his/her single private center	
Capital Costs (USD)	125,000
Number of ROP Screenings (annual)	360 (1000)*
Number of ROP Treatments (annual)	30 (75)*
Percentage of free screenings & treatments	0%
Percentage of subsidized screenings & treatments	0%
Subsidy per screening & treatment	0%
Cost per screening (USD)	90.69
Cost per treatment USD)	322.23
Project Internal Rate of Return (IRR)*	0.41%*

*To break even at the current assumptions, the number of screenings must be at least 1000 and treatments 75.

Cost of ROP Treatment Services Delivery : Scenario 3

ROP specialist screens and treats at another center(s) within city limits	
Capital Costs (USD)	42,485
Number of ROP Screenings (annual)	1000
Number of ROP Treatments (annual)	75
Percentage of free screenings & treatments	0%
Percentage of subsidized screenings & treatments	25% of screenings
Subsidy per screening & treatment	50%
Cost per screening (USD)	29.25
Cost per treatment USD)	129.91
Project Internal Rate Return (IRR)	1.12%

Source: Shwetha Mangalesh, Anand Vinekar, Suhruta Kulkarni, Shainesh G, Chaitra Jayadev, Noel Bauer, Bhujang Shetty (2015), 'Estimating the cost of ROP treatment and services: A Mathematical Model', *Investigative Ophthalmology & Visual Science*, June, 56 (7):946. http://iovs.arvojournals.org/article.aspx?articleid=2336669&resultClick=1#.VeVvY7YJmWo.mailto

Cost of ROP Treatment Services Delivery : Scenario 4

ROP specialist performs screening and treatment at a general / teaching hospital	
Capital Costs (USD)	126500
Number of ROP Screenings (annual)	2000
Number of ROP Treatments (annual)	120
Percentage of free screenings & treatments	50%
Percentage of subsidized screenings & treatments	25%
Subsidy per screening & treatment	50%
Cost per screening (USD)	13.83 (18)*
Cost per treatment USD)	80.98 (300)*
Project Internal Rate Return (IRR)*	1.08%*

*To break even at the current assumptions, the revenue per screening is 18 USD and per treatment is 300 USD

Thank You
More Questions?