Case Study: Forecasting Adoption of Telepresence Robot Technology

TEAM 1: BEN JOSE, ISHIKA GUPTA, NIKHIL REDDY GUDDETI VENKATA, SUPRIYA PRASAD, TIEN LE-DINH, UPMANYU TYAGI

Question 1: Pessimistic and optimistic scenarios regarding the market performance of remote telepresence robots (RTU)

OPTIMISTIC

It has a wide range of applications across various industries.

Increased participation from users in meetings, classes etc. – better communication and collaboration.

There is a growing need for telepresence technology: 50% of the US workforce has a job with partial telework. In Fortune 1000 companies, many employees are not at their desk 50-60% of the time. The average attention span of a conference participant increases to 35 minutes for video conferencing, as opposed to audio only. This is probably because they are less likely to multitask during a videoconference. Thus, it stands to reason that work will be done more effectively in different businesses and organizations if this technology is adopted and used consistently.

PESSIMISTIC

Technological barriers: Unreliable internet / wifi connection

Expensive to acquire and use this technology.

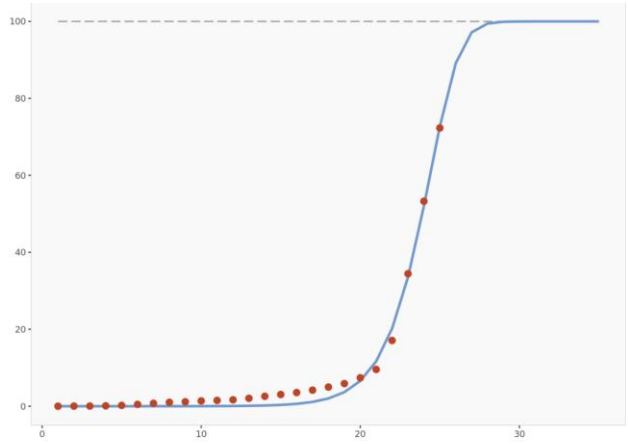
Highly dependent on uncertain factors such as geographic location of users and robots, availability of resources and enterprise culture.

Not enough value-add: this technology only outperforms IM (Instant messaging). But it does not outperform other existing technologies such as audio conferencing, video conferencing, face to face communication.

Privacy issues for large scale enterprises. (Privacy is not a major concern for small-scale companies/organizations/enterprises).

Low ROI – ROI is highly dependent on continuous usage of the tech. If Microsoft invests a lot and the tech is used only sometimes by the user then it'll take years to get back returns.

Question 2: Forecast

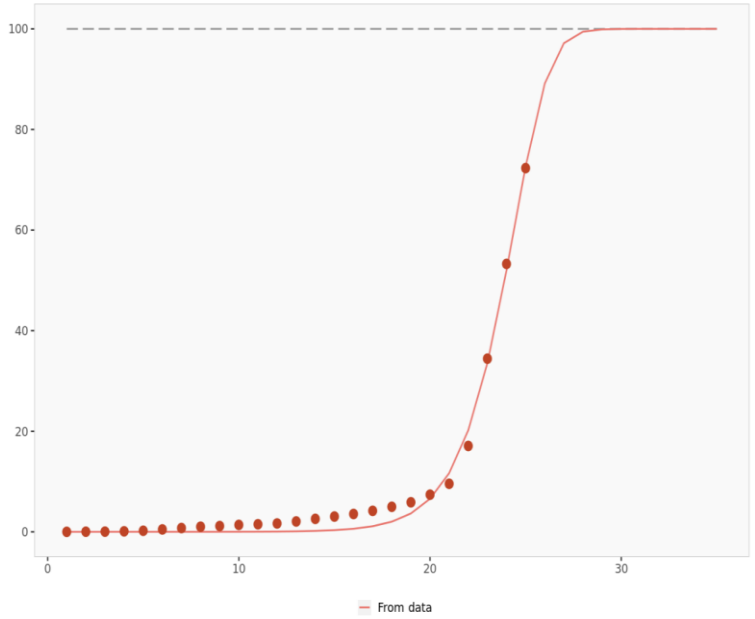


Model calibration. Bass model calibrated on observed data.

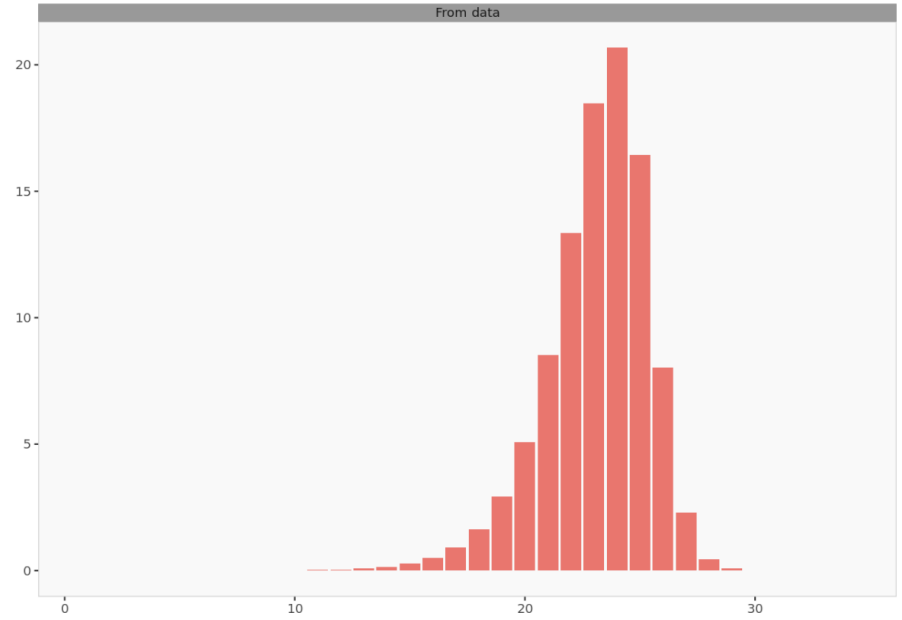
Parameters

	Parameters
p	0.00000
q	0.82822

Model parameters. p (innovation) and q (imitation) values estimated from data.



Bass forecasts. Forecasts of cumulated adoptions.



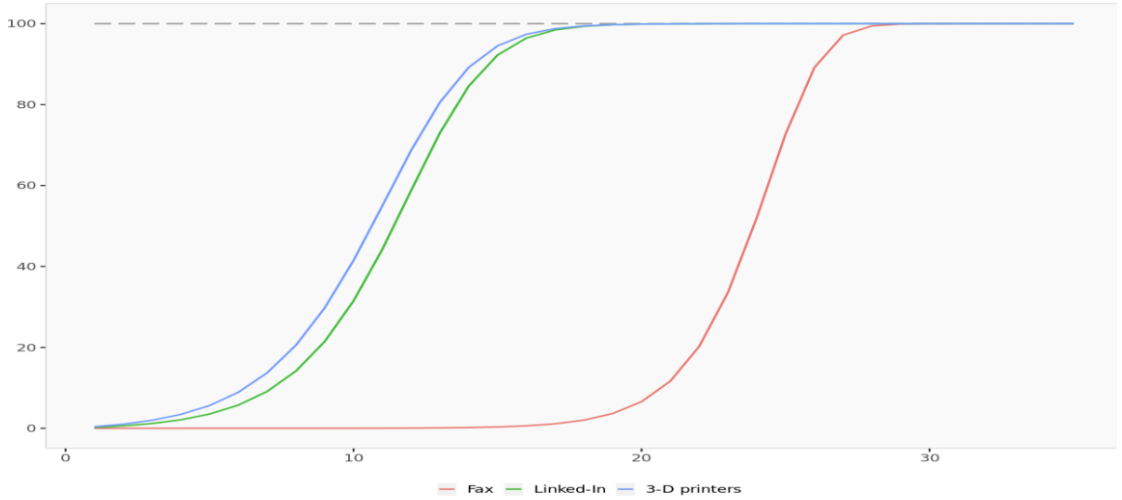
Speed of adoption. Number of adoptions per period.

- P = innovation factor = 0
- Q = imitation factor = 0.8

- Initially Slow adoption rate.

- The fact that the p value is 0 means that a person is not going to adopt this technology unless someone else adopts this technology. Thus, the adoption of this technology is heavily influenced by other buyers, word of mouth and networking. people are not willing to experiment and try a new technology unless and until someone else has already tried it.
- Initially, there is no adoption of this technology because it is new, and the adoption is heavily dependent on others buying the product. There is a 'follow the crowd' trend. Only if others adopt this technology, will a person adopt this technology as well. So, initially there is no adoption, but as soon as some people start adopting this technology, there is a steep increase in adoption.

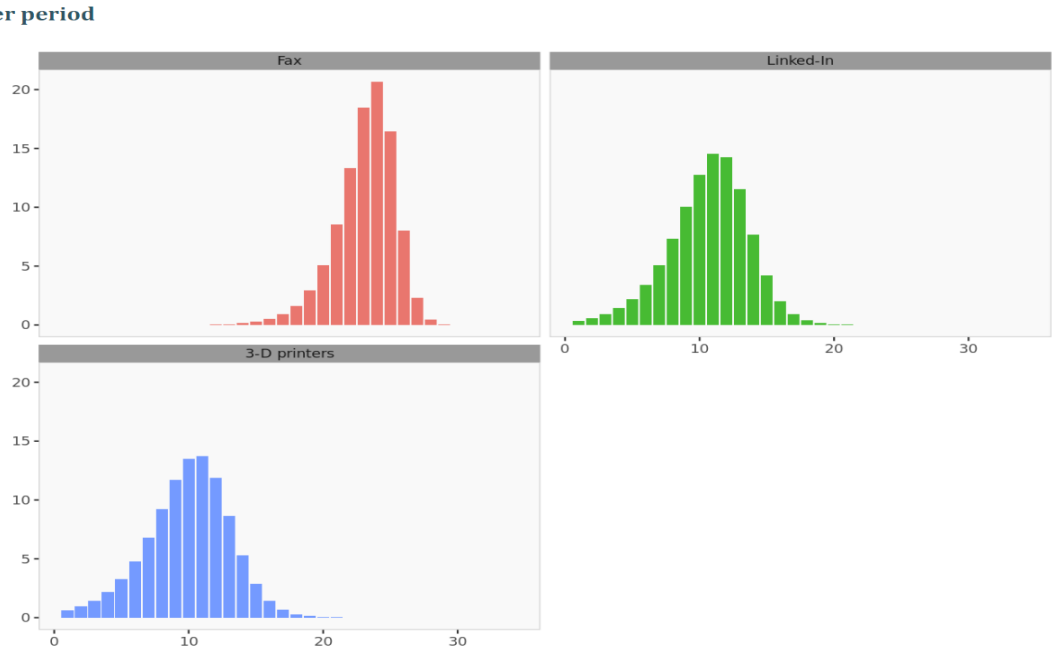
Question 2: Forecast based on analogy



Bass forecasts. Forecasts of cumulated adoptions.

	Fax	Linked-In	3-D printers
p	0.00000	0.00234	0.00403
q	0.82822	0.58383	0.54646

p and q values. p (innovation) and q (imitation) values used in forecasts.



Speed of adoption. Number of adoptions per period.

- If we look at the forecast for fax, we can see that initially, there is no adoption and then there is a steep increase in adoption because again, adoption is heavily dependent on other adopters.
- For linkedIn and 3d printers, during the early stages itself, people start adopting the technology and there is an increase in adoption as time goes by. This suggests that the adoption is not as heavily dependent on other adopters as compared to fax machines. People are more willing to adopt this technology based on advertisement and other external factors and not just on other adopters, when compared to fax machines. But in general, the q value is greater than p value which means that word of mouth and networking and other adopters still play a significant role in the adoption of this technology. This can be backed by the p and q values of all the three products.

Question 3: Long-term and short-term recommendations based on forecasts

Short-term

The MRTT/RTU technology is more like linkedIn and 3d printers when compared to fax machines. This is because fax machines replaced teletype machines (an existing technology).

But we know that the value-add of MRTT is not very high. The existing technologies such as audio and video conferencing and face-to-face time are still strongly/frequently/widely used by users. It is not going to replace it, at least in the short run.

Thus, to adopt this technology, Microsoft should initially focus on how they can advertise this technology effectively. Once they advertise it effectively, a few people will adopt it (because there is a small group of people who are willing to try and adopt a new technology, irrespective of the influence of others) and these adopters will then influence the other non-adopters to adopt this technology.

Advertising can include demonstrations, trials before buying the product, offering incentives like special discounts, exclusive access, and taking feedback from adopters to improve.

Long-term

If we think of long-term then MRTT is more like fax machines. It has the potential of replacing the existing technologies.

But because the p value is 0, there is no group of people who are willing to try a new technology.

They have to work on creating a group of people who are willing to try a new technology by addressing the factors that are preventing people from trying and adopting this technology.

Educate people on its importance and benefits.

Create demand for this technology.

They should understand that the adoption of any new technology will take time and they should be patient, persistent and continuous in marketing efforts and strategies.

Thank you