

On Gender Specific Perception of Data Sharing in Japan

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| 3 | Methodology |
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Introduction

Research Objective

Research situation

- **Focus so far** on the Western world;
- Unclear situation in Japan.

Social situation

- In Japanese **groups** **Identification** via role [7];
- Not sharing = isolation from the group.

Gender differences

- Different privacy **views**;
- Women – major caregiving responsibilities [9]
→ privacy may be **unfamiliar**.

Does gender affect the perceived benefits of sharing?



Consumer privacy research

Focus on online shopping or banking



Consumer benefits

e.g. Chellappa and Sin [11]

"Web" privacy research

Focus on online search and social media



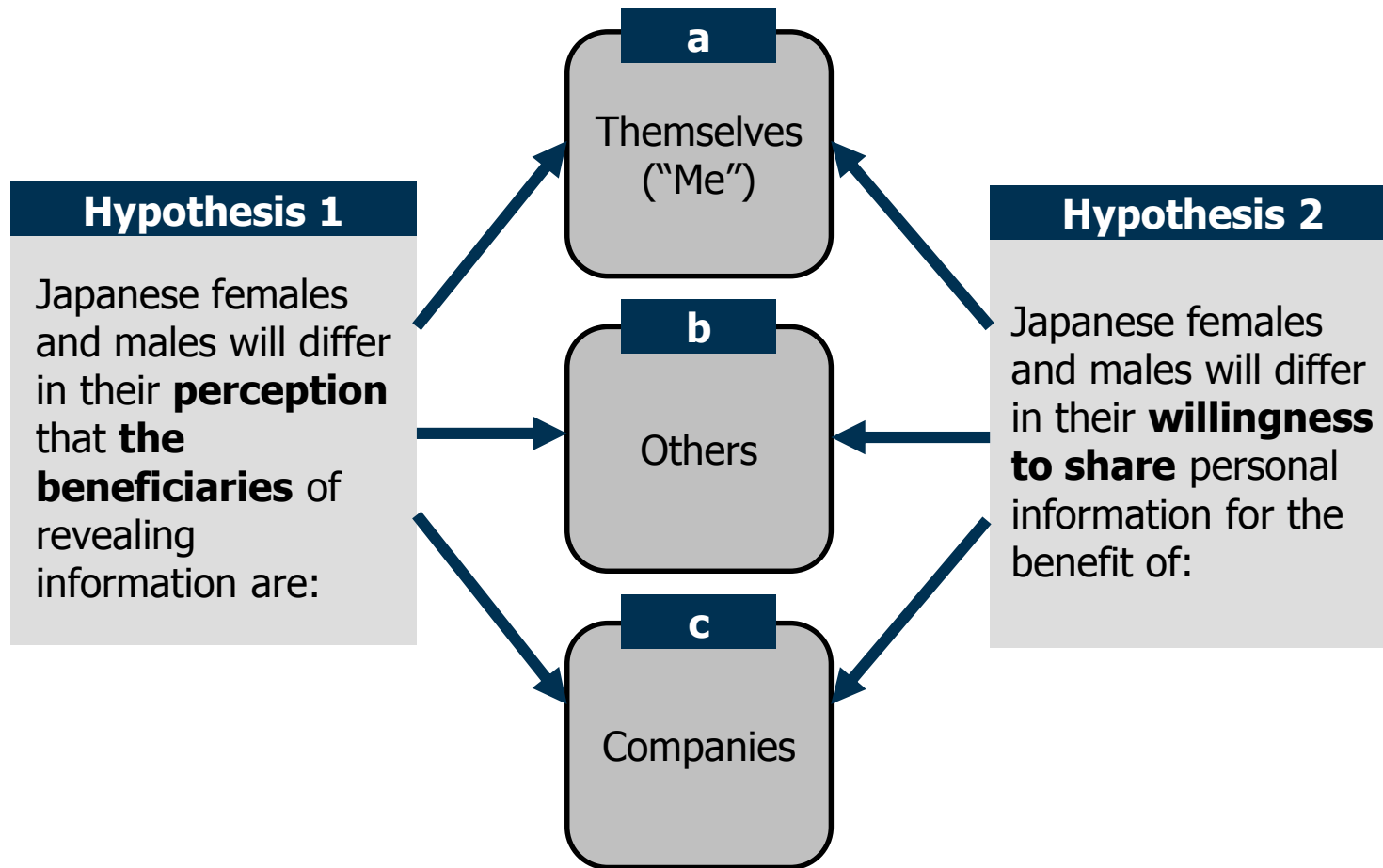
Social adjustment benefits

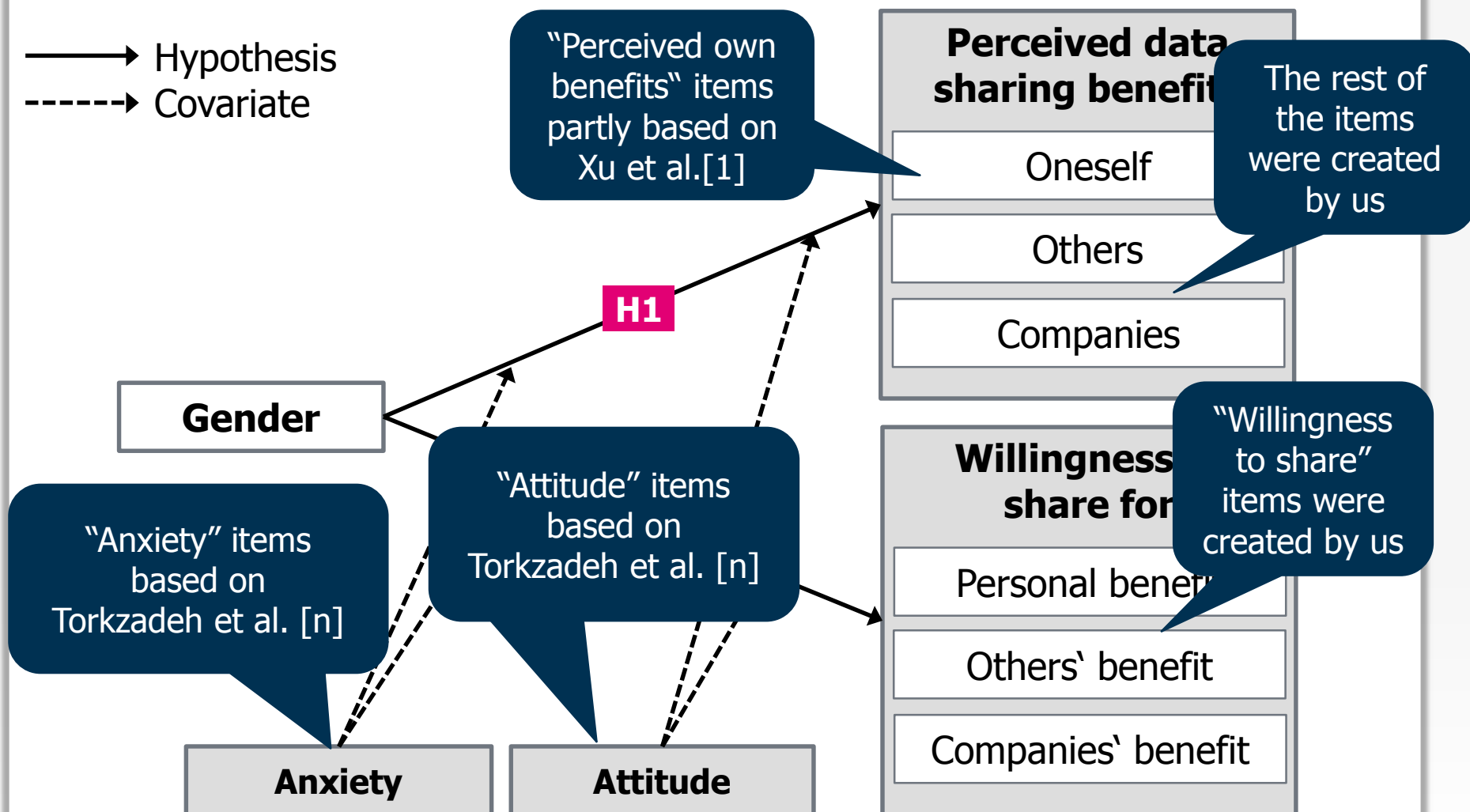
e.g. Lu et al. [12]

Legislation

- The "Act on the Protection of Personal Information" (2003)
- Privacy guideline of the OECD (2013)

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Methodology

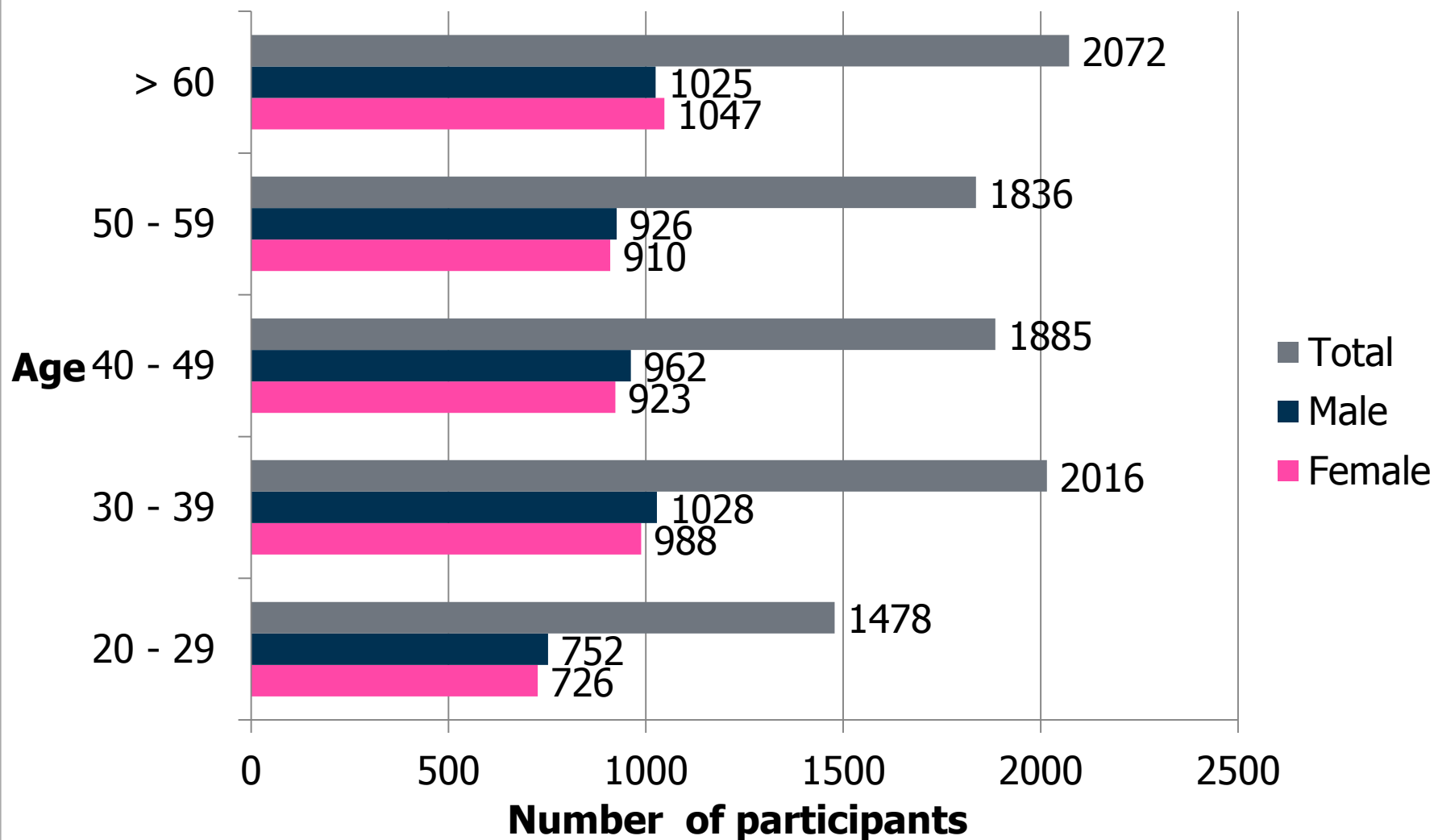
Data Collection



- **Web** survey;
- Items on **Likert scale** from 1 to 7;
- **10,000** Japanese participants;
- **No bias** on:
 - location,
 - marital status,
 - having children;
- The sample reflects the Japanese society in **age, gender, education level**, etc.
- **Removed responses** of participants in the research or advertising business.

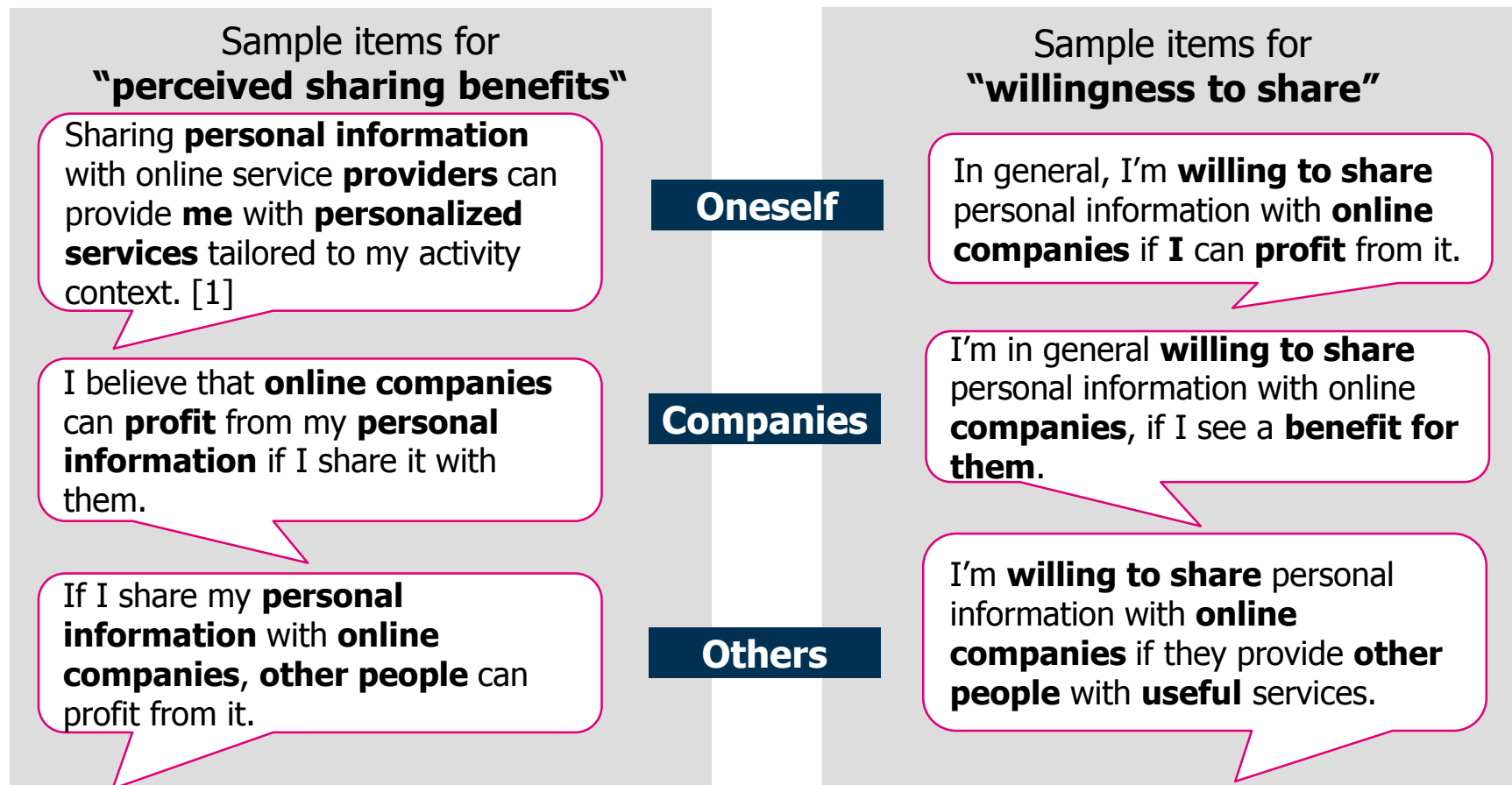
Methodology

Participant Statistics



Methodology

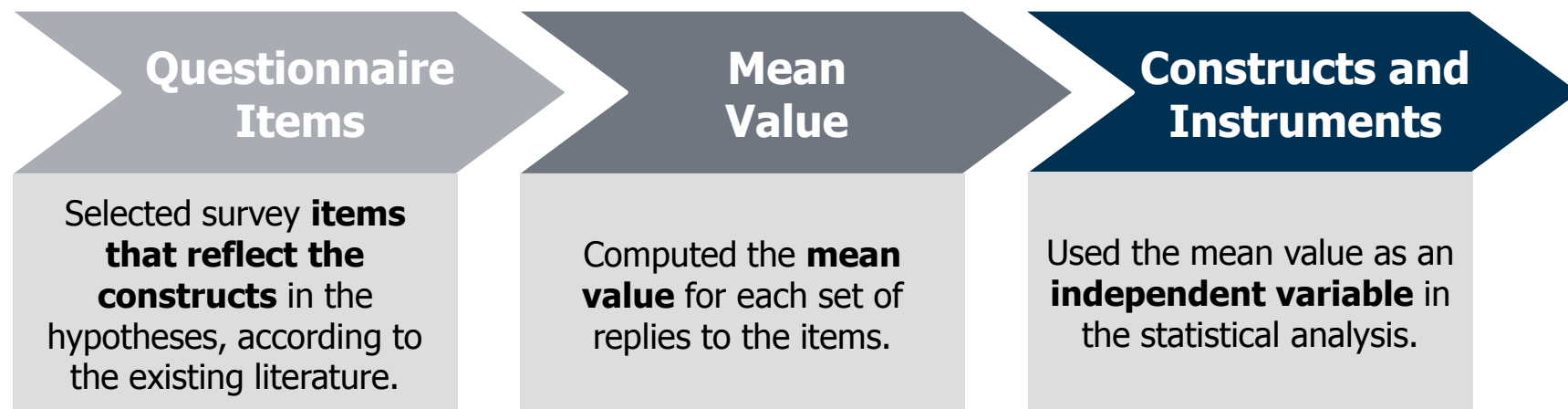
Sharing Constructs



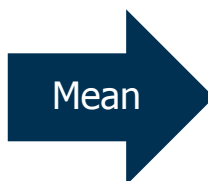
Methodology

Constructs and Instruments

- The six **sharing constructs** on which impact is measured, as well as the **instruments** ("Anxiety" and "Attitude") were developed from questionnaire items.



Perceived own benefits
Item 1 Reply: 4
Item 2 Reply: 2



"Perceived own benefits"
construct value:
3

Constructs

Perception of Sharing Benefits

Perceived sharing benefit for oneself

- Sharing personal information with online service providers can provide me with personalized services tailored to my activity context.
- Sharing personal information with online service providers can provide me with more relevant information tailored to my preferences or personal interests.
- Sharing personal information with online service providers can provide me with the kind of information or service that I might like.
- In general, I believe that I can profit from sharing personal information with online providers.
- I think that I benefit from sharing personal information with online service providers.

Perceived sharing benefit for companies

- I believe that online companies can profit from my personal information if I share it with them.
- I believe that it is good for the success of online companies if I share personal information with them. I can support online companies by providing them with my personal information.
- I think that it is good for online companies if I provide them with my personal information.

Perceived sharing benefit for others

- It can provide benefits for other people if I share my personal information with online companies.
- If I share my personal information with online companies, other people can profit from it.
- In general, I think that it is good for other people if I share my personal information with online companies.
- It can be useful for other people if I share my personal information with online companies.

Constructs

Willingness to Share

Willingness to share for oneself 's benefit

- In general, I'm willing to share personal information with online companies if I can profit from it.
- I'm willing to share personal information with online companies if they provide me with useful services.
- If I see a benefit for myself, I'm in general willing to share personal information with online companies.

Willingness to share for the companies' benefit

- In general, I'm willing to share personal information with online companies if they can profit from it.
- I'm willing to share personal information with online companies if it is useful for them.
- I'm in general willing to share personal information with online companies, if I see a benefit for them.

Willingness to share for the benefit of others

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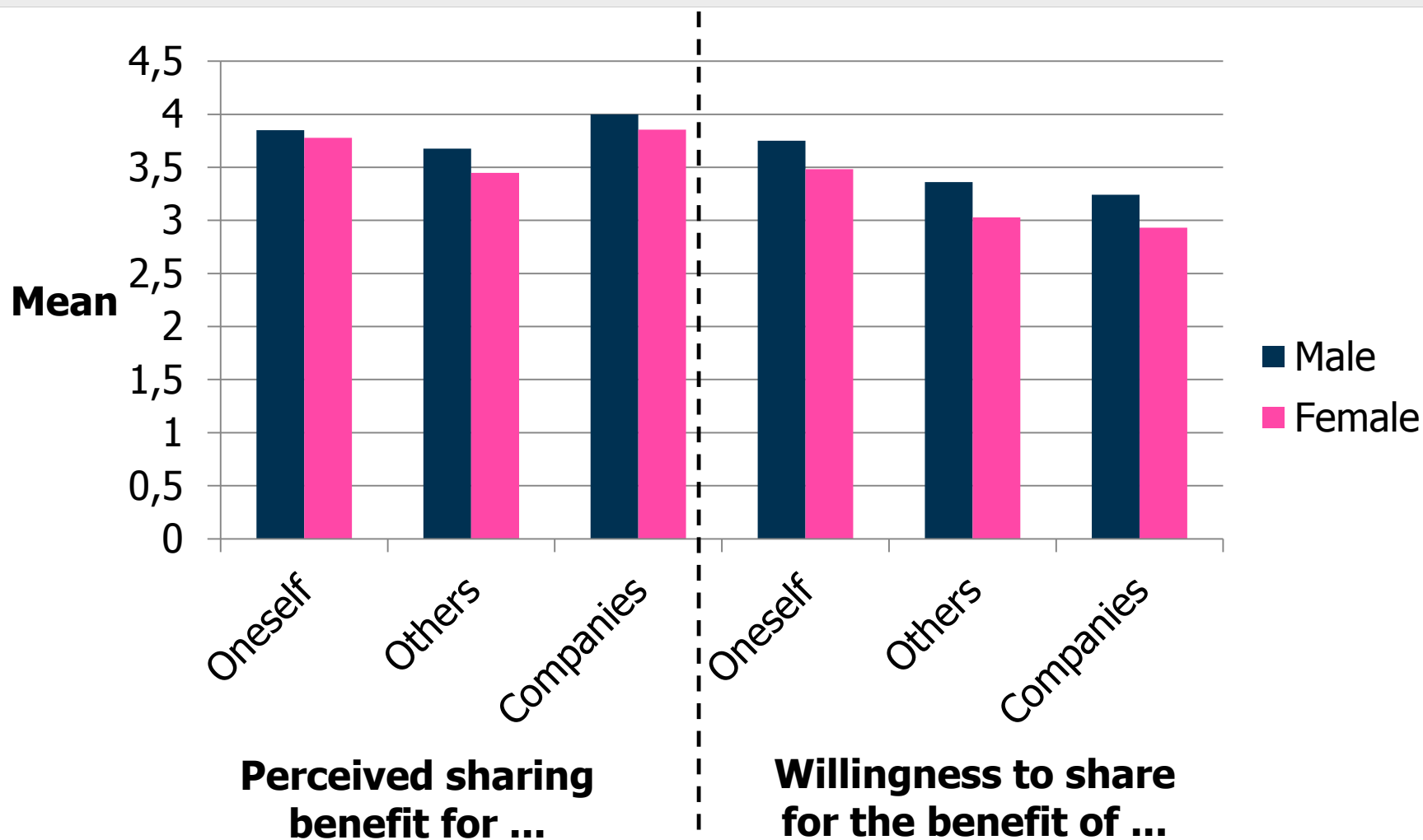
Do the items in the newly developed constructs fulfill the requirements of a Variance Analysis?

- **Validity confirmed** via Confirmatory Factor Analysis;
- **High reliability** shown in Cronbach's Alpha values of 0.892 and above;
- **No item has to be dropped** to increase value, according to the Kaiser-Meyer-Olkin value.



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Results: Descriptive Statistics



Results: Impact Analysis

- Performed via **ANCOVA** (Analysis of covariance);

		Oneself		Others		Companies	
		F-value	p-value	F-value	p-value	F-value	p-value
Perceived benefit for...	Anxiety	135,503	0.000	140,548	0.000	56,401	0.000
	Attitudes	104,633	0.000	43,152	0.000	79,175	0.000
	Gender	2				51,217	0.000
Willingness to share for ...'s benefit	Anxiety	1				167,888	0.000
	Attitudes	90,705	0.000	31,918	0.000	29,131	0.000
	Gender	148,010	0.000	233,217	0.000	213,816	0.000

"Anxiety" and "Attitudes" filtered out

F-values for "gender" indicate a high impact on all six constructs

Very small (close to 0) p-values indicate high statistical significance

All hypotheses are **confirmed**.

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Conclusion and Future Work

Japanese females and males **differ** in their:

- **perception of privacy** benefits for oneself, for others and for companies;
- **willingness to share** for their own benefit, the benefit of others or companies.

- Anxiety and attitudes towards computers are **biases** on the measured effects;
- Gender still has a **significant** impact.

Future work should be done to investigate the effect of differences in:

- **culture;**
- **age;**
- being a **digital native.**



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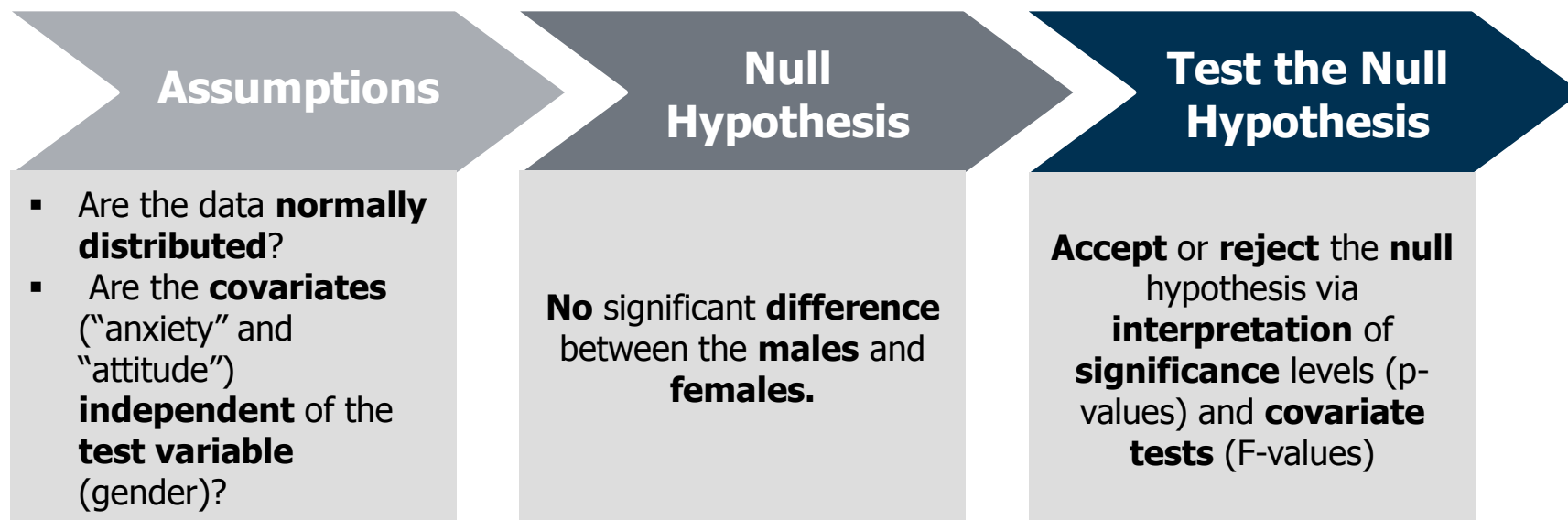
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- A combination of regression analysis and analysis of variance (ANOVA);
- Independent variables (IVs): at least one **continuous (covariate)**, and one **categorical (experimental groups)**;
- **Goal:** control for the variance of the dependent variable caused by covariates (factors not included in the scope of the study). [m]



Variance Analysis Preparatory Measures

Confirmatory Factor Analysis (CFA)

- **Situation:** some **observed** variables may be **correlated**;
- **Aim:** explain correlation via **latent** ("hidden") **variables**;
- **Method:** find latent variables (**factors**) via **linear combination** of observed variables (**errors** included);
- **Result:** **high factor loadings** (similar to regression coefficients) for the observed variables. => model is **correct** [p]

Cronbach's Alpha

- **What** it measures: whether the **all items** included in a factor measure the **same concept** [18];
- **How** it is measured: via formula relying on the **number** of items, item **covariance**, item **variance**, etc.;
- **Result:** the higher the value of the Alpha, the better it is to use the items as part of a group.

Kaiser-Meyer-Olkin Value

- **Aim:** can the selected questionnaire items be **included** in a **CFA**?
- **Index:** relationship between the elements in the **correlation matrix**, and those in the **partial correlation matrix**.
- **Result:** if the index value is too low, **improve** quality by:
 - **adding** more **correlated** variables;
 - **removing** those with **weak correlation** values.

Measurement Instruments

(Computer user) attitude

- I like working with computers.
- I look forward to those aspects of my job that require me to use a computer.
- Once I start working on the computer, I find it hard to stop.
- Using a computer is frustrating for me. (R)
- I get bored quickly when working on a computer. (R)

(Computer) anxiety

- I feel apprehensive about using computers.
- It scares me to think that I could cause the computer to destroy a large amount of information by hitting the wrong key.
- I hesitate to use a computer for fear of making mistakes I cannot correct.
- Computers are somewhat intimidating to me.

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