

ARTNeT Greater Mekong Sub-region (GMS) initiative

Session 3

Survey design – How to plan and manage the fieldwork

ARTNeT Consultant

Witada Anukoonwattaka, PhD

Thammasat University, Thailand

witada@econ.tu.ac.th



Asia-Pacific Research and Training Network on Trade

www.artnetontrade.org

Outline of this session

- Layout of questionnaires
- Type of questions
- Common problems and pitfalls

Before starting to design a questionnaire

**Write a study
protocol!**

**Factors determine export
competitiveness of domestic
garment industry**

Study protocol

Prepared by

20 August 2009

A Study Protocol

- **Decide on goals**
 - Identify factors determining export competitiveness of the garment industry
- **Know the subject**
 - Determinants of export competitiveness
 - Measurements of export competitiveness
 - Background about the industry
- **Formulate a hypothesis**
 - R&D, firm size, and specialization may increase export potential and market shares.
- **Define data for testing the hypothesis**
 - For example R&D expenses, investment expenditures, number of workers, product specialization, export growth.

- **Determine the study population:**
 - How many focus groups?
 - Characteristics of each group
 - Experience
 - Education
 - Language

- **Designing questions:**
 - Content of the questions
 - Format of the questions
 - Presentation and layout
 - Coding schedule (if appropriate)
- **Pilot and refine questionnaire**

Cover letter / Interview introduction

- **Introduce yourself**
 - Why you are investigating
 - Where you obtained the respondent's name
 - How and where you can be contacted
 - Guarantee of confidentiality
 - Length of interview (be honest)

Tip: Explain to all respondents the importance of the study and its usefulness (who will benefit?)

Madison Supply Company
Employee Survey

The purpose of this survey is to help management identify family issues that our employees experience that are related to job performance. Please respond to the following survey items by checking the appropriate response next to each question/item. Your responses are completely anonymous and will only be used to assess overall employee characteristics.

1. Have you had difficulty handling family responsibilities or personal appointments/tasks with the current fixed work hours?

Yes No Uncertain

purpose of the survey

Introductory Statement

The purpose of this survey is to help the government identify the competitiveness status and problems related to export performance of the garment industry. Please respond to the following survey items by checking the appropriate response next to each question/item. Your responses are completely anonymous and will only be used to assess overall employee characteristics. It would be appreciated if you could return the completed questionnaire by ...if at all possible.

7. How would a flexible work schedule change your performance as an employee?

Improve performance Hinder performance

8. How would you prefer flextime scheduling over the present 8:00 a.m.

Yes No Uncertain

Thank you for completing the questionnaire. Please place the completed questionnaire in a box marked "Employee Survey" located at the factory time clock or at the entrance to the main offices.

Example
Questionnaire

ensure anonymity

deadline

General Characteristics of Good Questionnaires

- Good appearance
 - ⇒ easy to read
- Short and simple
- Relevant and logical
 - ⇒ High response rate
 - ⇒ Easy for data analysis

Which layout do you prefer?

Vom Befrager einzutragen: Datum der Befragung: _____. Datum der Befragung: _____. Initialen des Befragers: _____
Name des Arztes: _____
☐ Befragung vollständig, keine weiteren Anrufe oder Nachfragen notwendig!

Guten Tag, mein Name ist _____: Ich bin Mitarbeiter im Kreisgesundheitsamt in Husum / Als Mitarbeiter des Robert Koch-Institutes unterstütze ich das Kreisgesundheitsamt Husum. Wir haben derzeit im Landkreis Nordfriesland eine ungewöhnliche Häufung von Masernerkrankungen. Wir möchten uns zunächst herzlich dafür bedanken, dass Sie uns Ihren Patienten _____ (Name des Falles) geboren am _____ als Masernfall gemeldet haben. Wir führen derzeit eine epidemiologische Untersuchung durch um diese Masernhäufung eindämmen zu können. Das Erfassen von Masernkomplikationen ist hier besonders wichtig. Vor kurzem müssten Sie von uns ein Fax mit weiteren Erläuterungen zu dieser Häufung erhalten haben, in dem wir auch auf diese Nachrecherchen hingewiesen haben. Um den von Ihnen gemeldeten Fall korrekt einordnen zu können, möchten wir noch kurz einzelne Informationen abklären.

Fragenkomplex Symptome:
Hatte Ihr Patient eines der mehrere der folgenden Symptome?

Generalisierter Hautausschlag > 3 Tage: Ja Nein Unbekannt

Wenn Beginn des Hautausschlags exakt bekannt ist, Datum genau angeben: _____.
Wenn Beginn des Ausschlags NICHT exakt bekannt ist, dann Zeitpunkt eingrenzen, nämlich: Beginn Ausschlag irgendwann zwischen dem _____ und dem _____

Fragenkomplex Labor:
Liegt Ihnen zu diesem Patienten einer oder mehrere der folgenden Labornachweise vor?

(1) Virusisolierung (2) Nukleinsäurenachweis (PCR)
(3) IgM (4) IgG mit 4-fachem Titeranstieg
(5) Antikörperrnachweis mit 4-fachem Titeranstieg

War Ihr Patient gegen Masern geimpft?
Erste Masernimpfung:
 Ja (Impfausweis) Ja (aber nicht dokumentiert) wenn ja, wann (z.B. laut Impfausweis): _____.
 Nein Unbekannt

Zweite Masernimpfung:
 Ja (Impfausweis) Ja (aber nicht dokumentiert) wenn ja, wann (z.B. laut Impfausweis): _____.
 Nein Unbekannt

Dritte Masernimpfung:
 Ja (Impfausweis) Ja (aber nicht dokumentiert) wenn ja, wann (z.B. laut Impfausweis): _____.
 Nein Unbekannt

Arzt hat in der Praxis noch andere Masernfälle gehabt, die noch nicht gemeldet wurden:
 Ja Nein
Wenn ja, dürfen wir Sie bitte uns diese Fälle schnellst möglich alle nachzumelden, denn davon hängt ab, wie realistisch wir diese Häufung einschätzen können.
Haben Sie bei Ihrem Patientengut subjektiv den Eindruck, dass im Vergleich zum entsprechenden Zeiträumen der Vorjahre dieses Jahr deutlich mehr Masernfälle aufgetreten sind? Ja Nein unbekannt
Sie werden in wenigen Tagen auf dem Postweg weitere Informationen zu der Masernhäufung von uns erhalten, Haben Sie hierzu Fragen?
Vielen Dank für ihre Mithilfe!

Masern-Ausbruch Nordfriesland Juni 2001

Dr. Gerard Krause
Abt. Infektionsepidemiologie
Robert Koch-Institut
Seestraße 10
13353 Berlin

Vom Befrager einzutragen:
- Datum der Befragung: _____.
- Initialen des Befragers (Vor-+ Nachname): _____
- Name des Arztes: _____
- Befragung vollständig? (1) Ja (2) Nein, Nachfrage notwendig.

Guten Tag, mein Name ist ____ (bitte Namen nennen)____.

Ich bin Mitarbeiter im _____ oder _____ Als Mitarbeiter des Robert Koch-Institutes unterstütze ich das Kreisgesundheitsamt Husum.

Wir verzeichnen derzeit im Landkreis Nordfriesland seit Anfang September 2005 eine ungewöhnliche Häufung von Masernerkrankungen. Wir möchten uns zunächst herzlich dafür bedanken, dass Sie uns Ihren Patienten ____ (Name des Falles wie in Kopfzeile)____, geboren am ____ (Datum wie in Kopfzeile)____, als Masernfall gemeldet haben. Wir führen derzeit eine epidemiologische Untersuchung durch um diese Masernhäufung eindämmen zu können. Das Erfassen von Masernkomplikationen ist hier besonders wichtig. Um den von Ihnen gemeldeten Fall korrekt einordnen zu können, möchten wir noch kurz einzelne Informationen abklären.

1. Hatte Ihr Patient eines der mehrere der folgenden Symptome?
Generalisierter Hautausschlag > 3 Tage:
(1) Ja*
(2) Nein
(3) Unbekannt

* Wenn ja: Wann begann der Hautausschlag?
(4) Datum genau bekannt: _____.2005
(5) Datum nicht genau bekannt: Ausschlag begann zwischen _____.2005 und _____.2005.

2. Welche der folgenden Labornachweise liegen Ihnen zu diesem Patienten vor?
(Mehrfachnennungen möglich)

(1) Virusisolierung
(2) Nukleinsäurenachweis (PCR)
(3) IgM
(4) IgG mit 4-fachem Titeranstieg
(5) Antikörperrnachweis mit 4-fachem Titeranstieg

3. War Ihr Patient gegen Masern geimpft? (bitte eine Angabe pro empfohlene Impfung)

Question order (1)

- Decide on the **order** of items/questions
 - Easy → difficult
 - General → specific
 - Factual → abstract
- Don't put the most important item last (why?).
- Where to place **sensitive questions**?
- **Group questions** by topic/ response options

Question order (2)

- Be aware that one question might influence answers to future questions.

Example

- Do AFTA tariff reduction schedules affect your company's investment plan?
- What do you think are the most important challenges for your business over the next five years?

Question formats

Two main question formats

- **Closed** format → **forced choice**

Yes	<input type="checkbox"/>	Always	<input type="checkbox"/>
No	<input type="checkbox"/>	Sometimes	<input type="checkbox"/>
Don't know	<input type="checkbox"/>	Never	<input type="checkbox"/>

- **Open** format → **free text**

What is the most important strength of your company relative to your competitors? Please describe:

Response formats

- **dichotomous** – offer two either/or responses (true/false; yes/no; for/against)
- **multiple choice** – select one or more than one
- **scaled response** – gather range of “values” (for example strongly disagree, somewhat disagree, neutral, somewhat agree, strongly agree)
- **rank or ordinal** – to rate things (e.g. level of importance).
- **numerical** - answers are in real number

Examples of closed questions

Numerical & dichotomous responses

How long has your company been established? ____
years

How long have you worked in this firm? ____ years

What is your sex (gender)?

Male

Female

Has your company imported inputs from ASEAN
countries?

Yes

No

Don't know

Multiple choices

What is your company doing? (Choose all that apply)

- Producing finished products
- Producing intermediate goods
- Exporting
- Importing
- Other (specify)_____

Scale Response

How often has your company used the following investment incentives?

	Always	Sometimes	Seldom	Never
Tariff redemption	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tax exemption	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Export subsidy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Rating

How useful would you think AFTA would be to enhance your export potential? *(please circle)*

1 ② 3 4 5 6 7

Not at all useful

Very useful

Ranking

Please rank the items from 1 to 5 according to what is the most important strategy of your company. (Place a 1 next to the item that is least important and place a 5 next to the item that is most important)

_____ Cost reduction

_____ Quality improvement

_____ Product differentiation

_____ Market expansion

_____ Brand development

[Asia-Pacific Research and Training Network on Trade](http://www.artnetontrade.org)

Coding Schedule

- Question and responses should be **pre-coded**
- Quicker and easier data entry for quantitative analysis
- Coding Examples:

Male 1
Female 2

Yes 1
No 0

Never 0
Seldom 1
Sometimes 2
Always 3

Strongly disagree 0
Disagree 2
Agree 4
Strongly agree 6

Good and bad questions (1)

1. A question should measure one thing at a time.

Do you think the recent accession of your country to the WTO will enhance your export and joint-venture opportunities?

Yes No

Versus

Do you think the recent accession of your country to the WTO will enhance your export opportunities?

Yes No

[Asia-Pacific Research and Training Network on Trade](http://www.artnetontrade.org)

www.artnetontrade.org

(2)

2. Avoid leading/bias questions.

How would you rate the quality of logistic services in your country?

very good good average poor

versus

How would you rate the quality of logistic services in your country?

very good good average poor very poor

(3)

3. A question should accommodate all possible answers

Which are your export markets? (choose all that apply)

a. USA b. Australia c. Japan d. EU

4. A question should allow possible response variability

Does joining AFTA benefit your business?

Yes No

5. Avoid ambiguous/unfamiliar terms.

You think HACCP will increase your cost of production by _____%?

Response Rate

- Response rate is the percentage of people who respond to your survey:

$$\frac{\text{Number of Complete Surveys}}{\text{Number of Participants Contacted}} = \text{Response Rate}$$

- Are you confident with your survey results if
 - a) Your survey has a 10% response rate?
 - b) Your survey has a 70% response rate?

Statistical Accuracy - Confidence and Error

- **Error:** "plus or minus X%"

You draw conclusions about the population as a whole from your sample survey, and you feel that your results have an error of no more than X% from the true value.

Statistical Accuracy - Confidence and Error

- Confidence: “X% confidence level”

“You have 95% confidence with an error of 5%”. You are saying that if you were to conduct the same survey 100 times, the results would be within +/- 5% of the survey 95 times out of 100

Finding the correct sample size for your desired level of statistical accuracy

Determining the "correct" sample size requires 3 pieces of information:

1. The size of your population
2. Your desired error level (e.g. 5%)
3. Your desired level of confidence (e.g. 95%)

Tip: You can use online calculators.

Survey Random Sample Calculator

If you have not yet conducted your survey and want to calculate how many people you need for your random sample, use calculators #1 and #2 below.

If you already conducted your survey and want to know how accurate your data are given the number of responses you received, scroll down and use calculator #3.

#1 - How many survey respondents do you need?

Specify your desired error level and population size below and click calculate. The numbers next to each confidence level indicate how many people need to complete your survey to achieve the specified error level.

How much error are you willing to tolerate?

If you are not sure, try somewhere between 3% and 6%

%

How many people are in your population?

90% Confidence

95% Confidence

99% Confidence

#2 - How many people do you need to send the survey to?

How many people need to complete the survey?

From Calculator #1 above

317

What is your estimated response rate?

What % of people do you expect to complete the survey?

50 %

Send the survey to 634 people

#3 - How accurate are your survey results?

How many people are in your population?

1800

How many people completed your survey?

300

Error Level

90% Confidence

4.3 %

95% Confidence

5.2 %

99% Confidence

6.8 %

How to improve your response rate? (1)

- Short and focused questionnaires
- Good questionnaire layout
- Ensuring confidentiality
- Pilot test and revise the questionnaire
 - Having a small sample fill the questionnaire in your presence
 - Pilot with a **similar group** of people to your intended subjects
 - **Solve problems** before starting

(2)

- Sending a reminder letter with the questionnaire and enclosing a return envelope
- Giving incentives
 - Tangible rewards, i.e. money, movie tickets, souvenirs, discount coupon, etc.
 - Importance of the survey to the audience
 - Summary of the survey results
 - Requirements for receiving future services

Summary

General rules of questionnaire design:

- Keep your questionnaire short and the questions simple, focused and appropriate
- Always pilot test your questionnaire before collecting data in the field.

Further Reading

- **Survey & Questionnaire Design**

<http://www.statpac.com/surveys/>

- **Questionnaire Design**

<http://www.fao.org/docrep/W3241E/w3241e05.htm>

- **Questionnaire design**

<http://www.statcan.gc.ca/edu/power-pouvoir/ch2/questionnaires/5214775-eng.htm>

Exercise 2



Asia-Pacific Research and Training Network on Trade

www.artnetontrade.org

Exercise 2.1: Please comment on the following questions and design alternative ones.

Rank the following skills that are difficult to source for your business.

- _____ Business management
- _____ Production management
- _____ Financial planning
- _____ Craftsmen and mechanists
- _____ Purchasing
- _____ I T
- _____ Design
- _____ Logistics
- _____ Marketing
- _____ Human Resources
- _____ Others (please specify_____)

Exercise 2.2: Design a short questionnaire (no more than 5 questions)

You are doing a firm survey to find out the following information.

- *Workers*. You want to know the number of workers (measured in persons) in the firm.
- *Industry*. You want to know what industry the firm is in. We classify industry into 4 choices :
 - Agricultures, Manufactures, Mining, Services.

Exercise 2.2: (2)

- *Activity*. You want to know the firm's trading activities with ASEAN countries. There are 4 choices of activities. One firm can have several activities.
 - Export inputs, export finished goods, import inputs, import finished goods.
- *Opinion about AFTA*. You want to know whether the firm has a strong opinion (agree/disagree) towards trade liberalization with AFTA.
- *Foreign investment*. You want to know whether the firm is a national or foreign firm.