

Development of E-commerce Statistics and the Implications

Jianjia Liu

School of Economics and Finance,
Xi'an Jiaotong University
74#, Yanta West road Xi'an, Shaanxi, 710061
+86-029-82651512
ljj_1980@stu.xjtu.edu.cn

Lei Lu

School of Economics and Finance,
Xi'an Jiaotong University
74#, Yanta West road Xi'an, Shaanxi, 710061
+86-13384977512
ecm03ll@mail.xjtu.edu.cn

ABSTRACT

This text has analyzed the development of E-commerce in some developed countries such as Canada, U.S.A., Japan, etc and put forward several suggestions on how to set up the system of E-commerce in our country taking the national conditions of our country into account.

Keywords

E-commerce; E-commerce Statistics; Statistical Survey

1. INTRODUCTION

Since the 1990s, the rapid development of e-commerce has brought extensive, enormous and far-reaching influence on the economy of the countries all over the world. E-commerce has already become the contemporary chief trend of economic and social development. As representatives of advanced productivity of new economic period, the level of its development has already become important signs of measuring the modernization level and comprehensive strength of countries and cities; it has become important means to make changeover in the economic system and reform the style of economic, promote the upgrading of the industrial structure, promote the modernized level of the city and strengthen international competitiveness. So, the governments all over the world have paid close attention to the development of E-commerce Statistics.

Though the development of informationization in our country is very quick, it still has great disparity with the developed countries for relatively late start. Our country is still in the interim facing the double task of informationization and industrialization at present. So, in order to carry on an instant, accurate Statistics to the development level of E-commerce and set up perfect E-commerce Statistics system, we must understand, absorb and bring in the theories and methods of E-commerce Statistics from the main foreign countries to make E-commerce Statistics become effective guarantee in leading and promoting e-commerce in a healthy way, combining social source and promoting national power.

2. DEVELOPMENT STATES OF E-COMMERCE STATISTICS IN THE WORLD

We have chosen some representative countries in the world and analyzed the development of E-commerce Statistics in these countries.

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, to republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

ICEC'05, August 15–17, 2005, Xi'an, China.

Copyright 2005 ACM 1-59593-112-0/05/08...\$5.00.

2.1 Definitions of e-commerce in main Developed countries.

The definition of e-commerce is the standard of carrying on E-commerce Statistics, but there are various kinds of definition of E-commerce in the world because of visual angles are different. So, it is necessary for each country to make a distinct, standard, practical, wide meaningful and measurable definition which should be suitable for each field and can be amenable to time.

2.1.1 Definition of e-commerce in OECD (Organization for Economic Cooperation and Development)

There are broadly-defined e-commerce and the narrowly-defined e-commerce. The broadly-defined e-commerce means the activity of electronic transaction on item and service, no matter the transaction occurred between enterprise, family, government and other public or individual organizations. It uses network as a intermediary. Goods and service should be ordered on the network but the payment and goods service don't need to carry on the net; the narrowly-defined e-commerce is only referred to trade activity carrying on through Internet.

It is worth pointing out that the source of OECD definition of e-commerce is the Canada official Statistical department.

2.1.2 Definition of e-commerce in Canada

The e-commerce definition of Canada official Statistical department is: E-commerce is the transaction which based on the computer network, including the transformation of ownership, transformation of tangible and intangible assets right to use. It consists of B2B (business to business), B2C (business to consumer), B2G (business to government) and G2C (government to consumer). But the transaction taking place inside enterprises will not be included in the e-commerce Statistics.

2.1.3 Definition of e-commerce in the U.S.A.

Definition of e-commerce in the U.S.A. is defined by the U.S.A. general survey bureau who divides e-commerce into three parts from angle of the overall situation: e-commerce infrastructure; electronic affairs; e-commerce.

E-commerce infrastructure is the economic facility or equipment which is used for supporting electronic affairs or electronic transaction activities.

Electronic affairs include the affairs managed by computer network in company, government and other non-profit organization.

E-commerce refers to goods or service transaction activity completed on computer network.

2.2 Overview and Characteristic of Main Country's e-commerce Statistics

2.2.1 Overviews of e-commerce Statistical Surveys

2.2.1.1 Overviews of Canadian e-commerce Statistical Survey

The e-commerce Statistics in Canada is an official activity that was presiding over by government and implemented concretely by State Statistics Bureau of Canada. Up till now, Canada has implemented four pieces of different e-commerce Statistics.

- a) "Net-banking operation and bank service –Statistics survey on internet and e-commerce application in financial department", this investigation is an irregular survey; its respondents are enterprises of the financial field and its nature is a separate investigation;
- b) "Annually Statistical survey on internet application in family ", is a fixed annual Statistical survey. It is a supplemented investigation and its respondents are families.
- c) "The Statistics survey on communication technology and e-commerce", is an irregular Statistical survey; it is a supplement investigation and the respondents are enterprises in "the standard industry of North America classifies"
- d) "Annually Statistical survey on e-commerce and relevant technology ", is a fixed annual Statistical survey; it is a supplemental investigation and the respondents are enterprises in "the standard industry of North America classifies"

2.2.1.2 Overviews of e-commerce Statistical survey in U.S.A.

U.S.A. is one of the countries that e-commerce and e-commerce Statistical survey launched earliest in the world. The U.S.A. general survey bureau is the principal organ responsible for e-commerce Statistical survey.

The annually Statistical survey adopted by U.S.A. general survey bureau is consisted of annual sample investigation of commerce, annual sample investigation of manufacturing industry, annual sample investigation of retailing business and annual sample investigation of service trade. The method taken in these investigations is dividing layer and sampling. The concrete method in e-commerce Statistical survey is joining the questions of e-commerce into the existing questionnaire except the annually sample investigation of manufacturing industry which is joining the supplementary questionnaire. These respondents investigating are enterprises and the enterprise e-commerce activity, business procedure and sales amount are investigated on the foundation of existing investigation.

2.2.1.3 Overview of e-commerce Statistical survey in other countries

2.2.1.3.1 Overview of e-commerce Statistical survey in Japan

In Japan, the departments in charge of e-commerce Statistical survey is Statistics Bureau, Ministry of Internal Affairs and Communication, Japan, but other departments participate in the e-commerce Statistical survey such as Statistics Bureau of Cabinet, Statistics Bureau of Ministry of Economics and Industry, etc. So, there are more than forty kinds of official investigation on e-commerce which involve every aspect of e-commerce but have great differences in purpose, frequency and content. These investigations launch around three

departments including enterprises, governments and families.

2.2.1.3.2 Overview of e-commerce Statistical Survey in S.Korean

Statistics bureau of the S.Korean began the official e-commerce Statistical survey since April of 2000. The investigation mainly concentrates on B2C (business to consumers) and B2B (business to business). The investigation on B2G (business to government) lags behind slightly, which began since the first quarter of 2001.

2.2.2 Characteristics of the e-commerce Statistical Survey in each country.

- a) The organizers carrying on e-commerce Statistical survey in the above-mentioned countries are all official departments, or implemented by cooperating with other relevant government departments (as Japan). The Statistical survey presided over by the government can not only strengthen its Fairness and dependability, but also give the survey authoritativeness.
- b) The investigations almost are not specially but supplementary. The main reasons are high cost of special investigations and not perfect e-commerce Statistical systems of each country which have not reach the level of special investigation.
- c) The above-mentioned countries confirm the content of investigation not only consulting the content that OECD recommends, but also considering the development level and characteristics of the national e-commerce. It is worth pointing out those indexes of Statistical survey in Singapore, Canada and U.S.A. are comprehensive and have involved the preferential investigation content that OECD recommends.
- d) Most investigations take the annually survey as the core, but there also are monthly, quarter, general survey and irregular surveys. The industries included in monthly and quarterly investigation are not more than on generally, such as "monthly trade sample investigation of retail business" in U.S.A. and "the investigation on family consumption trend", etc.
- e) Most countries adopt the sample investigations, but other method as census and census combine with sample investigation are also adopted. The method of sampling is mainly used and the following two kinds are used less.

3. IMPLICATIONS OF E-COMMERCE STATISTICAL SURVEY IN OUR COUNTRY

3.1 Overviews on present state of e-commerce Statistical survey in China

The e-commerce in our country is still in the elementary stage and the e-commerce Statistical survey is just start too. There are just some semi-official or unofficial departments and organization trying to carry on e-commerce Statistical survey but not a formal, overall, official survey on e-commerce in our country. For instance: "Statistical Reports on the Internet Development in China", "CII research and calculating on e-commerce total index system in China", "Statistical survey on intranet and e-commerce development level", "investigation on e-commerce developing in enterprises ", etc.

Most of above mentioned investigations are irregular, even once only, lack unified consideration and can't form a system except "Statistical Reports on the Internet Development in China" which hold regularly and establishes its own system to a certain

extent. Meanwhile, the unofficial survey is very apt to the systemic deviation and utility nature for it is not mandatory; even affect the fairness, accuracy and representativeness of the investigation result.

3.2 Implications of e-commerce Statistical survey in China

According to the experience of some foreign countries that carrying on e-commerce Statistical and the development of e-commerce Statistical in our country, we consider that if we want to set up a comparatively perfect e-commerce Statistical survey system, we should accomplish the following several points at least:

3.2.1 *Attach importance to the definition of e-commerce*

The kind, range and respondents are all fixed according to the definition of e-commerce which is prerequisite of e-commerce Statistical survey. There is not an authoritative definition of e-commerce in our country so that the key problem we met is how to define e-commerce when we carrying on the e-commerce Statistical survey.

We consider that open principle should be followed when defining e-commerce according to its characteristic of appearing late and excessive growth, in order to perfect it constantly with the development of e-commerce.

3.2.2 *The government should take charge of e-commerce Statistical survey*

We could understand the development of e-commerce prompt and accurate, find the questions existing in e-commerce and predict the development trend according to the e-commerce Statistical. It is obvious that e-commerce Statistical is important to the sound development of e-commerce. E-commerce could be promoted by just and accurate Statistical survey but the unilateral and utilitarian Statistical survey will mislead even hamper it.

However, the e-commerce Statistical survey of our country lacks the authoritativeness and mandatory at present even affected the fairness and accuracy of Statistical survey. So, the Statistical survey of e-commerce in our country should be included in the official Statistical development plan as early as possible and we should set up the official survey system of e-commerce in order to make the e-commerce Statistical survey authoritative and promote the development of it.

3.2.3 *Accelerate the research of the e-commerce Statistical theory*

The problem which should be considered first in research on Statistical theory of e-commerce is to keep the continuity with traditional Statistical. The e-commerce Statistical is not produced without foundation after all but is the extension on the network of traditional Statistical so that the basic theories of traditional Statistical are still suitable for the e-commerce Statistical survey.

Secondly, we should make further research on Statistical method, Statistical caliber and Statistical range of e-commerce, and then set up the index system of e-commerce Statistical as soon as possible.

Moreover, e-commerce has the characteristics of crossing over the limit of region. We should try our best to keep the harmony with the world on research in e-commerce Statistical theories for the overall and perfect system of e-commerce Statistical need the joint efforts of countries all over the world.

3.2.4 *The service of e-commerce Statistical survey should be comprehensively and pointed.*

The e-commerce Statistical survey should serve not only for the macroscopically strategic policies of countries but also for the micro operation of enterprises. Meanwhile, there should be different surveys to conform to the different respondents in order to offer the personalized service of the Statistical survey. Only in that way can we offer the good development environment for e-commerce and reflect the value of e-commerce Statistical survey.

4. REFERENCES

- [1]. Seminar of "research on e-commerce Statistical survey and application". "Statistical Surveys and Application of E-Commerce in Canada" [J]. China Statistics, 2003, 3 & 2003, 4
- [2]. Seminar of "research on e-commerce Statistical survey and application". "Survey of e-commerce development in S.Korean". [J]. China Statistics, 2003, 5
- [3]. Seminar of "research on e-commerce Statistical survey and application". "Statistical Surveys and Application of E-Commerce in Japan" [J]. China Statistics, 2003, 6
- [4]. Seminar of "research on e-commerce Statistical survey and application". "Statistical Surveys and Application of E-Commerce in the U.S.A." [J]. China Statistics, 2003, 7
- [5]. "Research paper of e-commerce development all over the world", translated by Juanying Zhu, Bingzhi Yang United Nations Trade and Development Board [M].2003.
- [6]. "The application of IT in Statisticals" Feng Cui, [M] Lixin Accounting Publishing House,2003