Incentive effects in the decision to utilize e-Tax in Japan

HIROYUKI KAWAGUCHI
Information Policy Division, Department of Culture and Community
Kochi Prefectural Government
4-1-16 Honcho, Kochi city, Kochi 780-0870
JAPAN
hiroyuki_kawaguchi@ken2.pref.kochi.lg.jp, info@kawaguchi.com

Abstract: - The author conducted a survey of 100 administrative scriveners who file tax returns in regards to whether or not they utilize e-filing and tax payment systems for national taxes (e-Tax) at the time of filing income tax returns as well as in regards to factors that resulted or did not result in such utilization. According to the survey results, the 5,000 yen tax credit is considered to serve as an incentive to promote e-Tax utilization. Those who continue to utilize e-Tax also tend to be interested in other incentives. On the other hand, a demographic exists who choose not to utilize e-Tax regardless of the monetary incentive, indicating a limitation of the monetary incentive.

Key-Words: - e-Tax, Decision Making, Monetary Incentive, e-Government, Online Application, Questionnaire Survey

1 Introduction
According to the National Tax Agency [1], there were 6,136,866 cases that utilized e-filing and tax payment systems for national taxes (e-Tax) at the time of the 2008 income tax returns. This number represents a 68.9% increase over the previous year, indicating that certain results have been achieved in order to accomplish the goal "Action Plan to Expand Online Utilization" upheld by the IT Strategy Office of the government [2].

In response to this plan, the National Tax Agency listed the following eight items as measures to promote e-Tax utilization [3].

1. To eliminate the need for mail attachments prepared by a third party.
2. To allow omission of electronic signature by a taxpayer himself, in the case of transmission by a representative such as certified tax accountants, etc.
3. To install PCs at tax offices to utilize e-Tax and experience its convenience, and to introduce measures to encourage e-Tax utilization with a PC at home after the subsequent years.
4. To shorten the processing time in regards to returns with refunds utilizing e-Tax.
5. To establish special deduction for the electronic certificate, etc.
6. To implement a 24-hour e-Tax desk during the period of income tax returns.
7. To strengthen the structure of taxpayer support including help desk.
8. To simplify the pre-configuration work (system response without relying on Java) for the electronic certificate relating to the public personal authentication service (basic resident register card), in regards to direct transmission from a tax return preparation corner to e-Tax.

It is assumed that online utilization is expanding by implementing some of the above measures. However, the measures among them which are effective have not been verified, and it will be necessary to examine the relationship among measures as well as the priority in order to maximize the return on investment from these measures.

To summarize the above eight measures, they can be categorized as follows. First of all, No.3 is the measure to improve the recognition of e-Tax itself. No.7 and No.8 can be categorized as the measure to improve the system and operation for improvement of e-Tax's convenience.

The rest of them can be categorized as incentive measures to promote utilization. No.5 falls under the monetary incentive among incentive measures, and No. 1, No.2, No.4 and No.6 are non-monetary incentives. No.6 is treated as one of the incentives since the 24-hour desk can become a factor for users to utilize e-Tax without a visit to a tax office, while it is...
generally recognized that "tax return implies a visit to a tax office."

The author is particularly interested in incentive measures among these measures, and conducted a survey of 100 administrative scriveners who file tax returns in order to analyze their structure and effect. In this paper, the incentives effective for e-Tax utilization and appropriate levels of incentives are indicated based on the survey results. The subsequent chapters include the following: Chapter 2 explains previous studies on incentives for online application. The overview of the survey conducted is described in Chapter 3, and the results are indicated in Chapter 4. Chapter 5 includes the summary and tasks in the future.

2 Previous studies in regards to incentives for online application

Previous studies in regards to incentives for online application are indicated below.

The New Media Development Association [4] is researching motivation to select an electromagnetic method rather than paper in application procedures from the viewpoint of incentives. In accordance with this research, attributes that greatly influence promotion of computerization were extracted from some online application systems in operation as of 2001 ("electronic application system" in the research"), based on which the following conclusion was drawn:

✓ Online application and submission businesses will increase since they are inevitable for day-to-day corporate businesses where time is greatly valued. On the contrary, it is expected that extraordinary application and submission businesses by corporations as well as those by the general public won't increase even though they can be done online.
✓ However, computerization will be promoted by economic incentives (fee reduction or no fee) at the early stage of implementation.

Ministry of Internal Affairs and Communications Round Table Conference for Promotion of e-Government - Working Group to Promote Online Utilization [5] is also attempting to quantitatively compare the effects of promoting online utilization by incentives using a model. According to this study, the utilization rate of online procedures resulted in 1.7 times more by giving non-monetary incentives, while in the case of the monetary incentive that reduces costs, the same level of effects as non-monetary incentives were not obtained unless costs were reduced by 40% to 50%, and it was computed that promotion of online utilization is not very effective if the reduction is around 10% to 20%.

Kawaguchi [6] established buyer's persona in consideration of the background on the side of automobile buyers in the one-stop service (Motor OSS) for procedures related to automobile ownership governed by the Ministry of National Land And Transport, and reviewed whether or not incentives are functioning when the persona takes actions based on the scenario of automobile purchase. In the case of designing an incentive, the principle is to grant the incentive to the object who makes the decision of online application; however in the case of Motor OSS, the object to grant an incentive is different from the object to choose online application, indicating that incentives tend not to work very well.

3 Survey
3.1 Overview

The "establishment of special deduction for the electronic certificate, etc." as a monetary incentive indicated in Chapter 1 is a system to give 5,000 yen tax credit when e-Tax is utilized for income tax returns. Since the purpose of this system is to subsidize the cost to implement a basic resident register card, electronic certificate (personal authentication) and IC card reader required when utilizing e-Tax for the first time, this system can be utilized one time only.

In this study, a survey of practicing administrative scriveners was conducted in regards to how the special deduction for the electronic certificate, etc. influences the behavior of e-Tax users.

Method: Online survey form
Respondents: E-mail newsletter readers targeting administrative scriveners (practicing administrative scriveners who are also obliged to file income tax returns)
Notification method: Recruiting notification by email (to 2,123 readers)

¹ Income tax returns have been accepted by mail in the past; therefore there is no novelty as a measure from the viewpoint that it is unnecessary to visit the office.
Number of collected surveys: 101 (excluding duplicate responses)  
Period: March 2009

3.2 Question items  
Question items in this survey are as follows:

- Whether or not e-Tax was utilized in the 2008 tax return (utilized for the first time / continuously utilized since last year / did not utilize)
- Question to those who utilized: Motivation to decide utilization (multiple responses and free words)
- Question to those who utilized: Equipment installed for utilization (multiple responses and free words)
- Question to those who utilized: Impression after utilization (free words)
- Question to those who utilized: How much savings would be the deciding factor to select or continue e-Tax utilization (multiple responses)
- Question to those who did not utilize: Reasons of not utilizing (multiple responses and free words)
- Question to those who did not utilize: How much saving would be the deciding factor to begin e-Tax utilization (multiple responses)

4 Results  
4.1 Motivation for e-Tax utilization  
Since respondents who utilized e-Tax include those who utilized it for the first time this year (first-time users) as well as those who continued to utilize it since last year (continuing users), the motivation was collected for each group. For continuing users, the difference from first-time users was also described.

First-time users (multiple responses)  
- No need to go out: 0%  
- Easy-to-operate system: 9%  
- Quick refund procedure: 27%  
- Easy electronic return procedure: 36%  
- 5,000 yen less tax: 63%  
- No need of attachments: 36%  
- Good impression to the tax office: 0%

Continuing users (multiple responses)  
- No need to go out: 15% (+15%)  
- Easy-to-operate system: 26% (+17%)  
- Quick refund procedure: 31% (-4%)  
- Easy electronic return procedure: 42% (-6%)

5,000 yen less tax: 42% (-21%)  
No need of attachments: 52% (+16%)  
Good impression to the tax office: 10% (+10%)

Looking at these results, it can be interpreted that first-time users are interested in the monetary incentive: 5,000 yen tax credit. When it comes to continuing users, it is indicated that their interests shift to non-monetary incentives including operability of e-Tax system, no need of office visit and no need of attachments. Since there are some cases where the monetary incentive is not applicable to continuing users, however, the results are not directly explaining the lower interests in the monetary incentive.

4.2 Equipment installed for e-Tax utilization  
This question is asking what was prepared upon e-Tax utilization, regardless of how many times it was utilized.

Both first-time users and continuing users (multiple responses)  
- IC card reader: 56%  
- Basic resident register card: 70%  
- Personal authentication (electronic certificate): 73%  
- Personal computer: 0%  
- Accounting software: 0%  
- Printer: 0%

It seems that an IC card reader, basic resident register card, and electronic certificate essential for e-Tax are newly implemented, and that a personal computer, accounting software and printer are not newly purchased for e-Tax. New implementation of IC card reader, resident register card and electronic certificate does not reach 100% because some administrative scriveners in the survey had already installed the equipment for other businesses (electronic application and preparation of electronic articles of incorporation by deputy.)

The rates of new implementation for basic resident card and electronic certificate are approximately consistent, indicating that the basic resident card is used only for the purpose of storing the electronic certificate and there are only a few cases where the card was previously obtained for other purposes.

4.3 Relationship between motivation leading to e-Tax utilization and the monetary incentive
The relationship between the motivation leading to e-Tax utilization and the monetary incentive to choose (or continue) e-Tax utilization is indicated in Figures 1 and 2 separately for first-time users and continuing users.

According to Figure 1, first-time users determined that the monetary incentive of 5,000 yen tax deduction is a reasonable incentive and chose e-Tax implementation. Otherwise, there is a tendency to ratify the 5,000 yen tax deduction as the monetary incentive after e-Tax utilization. In regards to continuing users, many responded that "they would continue utilization even with no tax deduction" or "money would not matter" regardless of the details of incentives. As a result, reduction of interests in non-monetary incentives by continuing users was indirectly proved.

### 4.4 Reasons of not utilizing e-Tax

In regards to respondents who ended up not utilizing e-Tax (non-users), the reasons were summarized as follows:

<table>
<thead>
<tr>
<th>Non-users (multiple responses)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't want capital expenditure</td>
<td>8%</td>
</tr>
<tr>
<td>Anxiety in system operation</td>
<td>20%</td>
</tr>
<tr>
<td>Preparation is troublesome</td>
<td>32%</td>
</tr>
<tr>
<td>Electronic return procedures are difficult</td>
<td>10%</td>
</tr>
<tr>
<td>Do not like strict returns</td>
<td>6%</td>
</tr>
<tr>
<td>No special reason</td>
<td>8%</td>
</tr>
</tbody>
</table>

32% answered that "preparation is troublesome," but it is not very prominent as a reason. Therefore, details of multiple responses are indicated in Figure 3.

In accordance with the above, combinations of "preparation is troublesome" and "electric return procedures are difficult" and of "preparation is troublesome" and "anxiety in system operation" are prominent.

Respondents are administrative scriveners who conduct application business on behalf of their clients. Since income tax returns are their annual business, we can assume that they don't hesitate for the work of tax returns itself. Thus, it is presumed that "electric return procedures are difficult" and "anxiety in system operation" are prominent.
operation" imply their feeling of rejection to utilizing the e-Tax system. The number for "don't want capital expenditure" is not distinct in particular in the summary results; however it is indicated in Figure 3 that this is the reason combined with another reason. Based on these results, it is not possible to specify the reason of not utilizing e-Tax, and it is assumed that utilization is prevented due to preliminary actions for e-Tax utilization as well as to feeling of rejection to e-Tax itself.

4.5 Relationship between the reasons of not utilizing e-Tax and the monetary incentive
The relationship between reasons in 4.4 and the monetary incentive to choose e-Tax utilization is indicated in Figure 4.

Figure 4: Relationship between reasons of not utilizing e-Tax and the monetary incentive

The response that "money would not matter" is considered to mean that "I would not utilize e-Tax regardless of how much I can save," unlike 4.3.

According to Figure 4, there is a slight difference in amounts with which the monetary incentive becomes effective. In regards to those from whom responses on reasons of non-utilization could not obtained, it is indicated that they might decide to utilize e-Tax with a monetary incentive of 10,000 yen or more and that those who answered "preparation is troublesome" and "anxiety in system operation" are seeking for a monetary incentive of 30,000 yen or more.

On the other hand, we recognized that many responded that "money would not matter." Those who don't utilize e-Tax tend to reject utilization with no particular reason, indicating the limitation of the monetary incentive.

4.6 Impression after utilization, reasons of non-utilization (free words)
In addition to the above results, the following include some interesting responses indicated with free comments.

Impression after utilization
✓ Easier than expected. (first time)
✓ Initial setting was complicated, and preparation was a lot of work. (first time)
✓ Hard to understand the explanation on preparation. (first time)
✓ Coordination with the IC card reader was troublesome. (continuing)
✓ Able to attribute previous data and easy. (continuing)
✓ Hard to recollect operation since this is only once a year event. (continuing)

Reasons of non-utilization
✓ Costs to purchase the equipment are more expensive than 5,000 yen deduction.
✓ More comfortable to deliver documents to the counter by hand.
✓ 5,000 yen deduction is one time only and not very beneficial.
✓ Reduction of burdens on staff at tax offices seems to be the objective, and the fear is that the reduced manpower could be attributed to unfair tax inspection.

5 Summary and future tasks
Effects of incentive measures in e-Tax were investigated in this paper. As a result, it is considered that a 5,000 yen tax credit is an effective incentive to promote e-Tax utilization. In addition, interests of continuing users of e-Tax tend to subsequently shift to other incentives. On the other hand, those who do not utilize e-Tax exist regardless of the amount of monetary incentive, indicating the limitation of the monetary incentive. I hope to continue research in the future, in order to analyze the progress of incentive effects.

References:
[1] National Tax Agency, Number of e-Tax Utilization,  
http://www.e-tax.nta.go.jp/topics/kensu.html,  

[2] IT Strategy Office, Action Plan to Expand Online Utilization,  


