

Ueda, Masashi

**Conference Paper**

## A Conjoint Analysis on e-book Market in Japan

28th European Regional Conference of the International Telecommunications Society (ITS):  
"Competition and Regulation in the Information Age", Passau, Germany, 30th July - 2nd  
August, 2017

**Provided in Cooperation with:**

International Telecommunications Society (ITS)

*Suggested Citation:* Ueda, Masashi (2017) : A Conjoint Analysis on e-book Market in Japan,  
28th European Regional Conference of the International Telecommunications Society (ITS):  
"Competition and Regulation in the Information Age", Passau, Germany, 30th July - 2nd August,  
2017, International Telecommunications Society (ITS), Calgary

This Version is available at:

<https://hdl.handle.net/10419/169502>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen  
Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle  
Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich  
machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen  
(insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten,  
gelten abweichend von diesen Nutzungsbedingungen die in der dort  
genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal  
and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to  
exhibit the documents publicly, to make them publicly available on the  
internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content  
Licence (especially Creative Commons Licences), you may exercise  
further usage rights as specified in the indicated licence.*

# **A Conjoint Analysis on e-book Market in Japan**

Masashi Ueda

**Keywords:** online distribution, conjoint analysis, consumer survey

## **Abstract**

The e-book market in Japan is growing in this decade and according to Impress R&D this tendency will be continue. In this paper, we collected 3,000 samples by online survey and found a tendency of consumption of e-book in Japan by using conjoint analysis. We found 1) attachment to physical objects in Japanese consumers, 2) high MWTP for device and providers. We check this by other questions and found tendency of Japanese consumer for e-distribution services.

## **Introduction**

As previous survey on e-book market in Japan, Ueda (2016) note that 'though limitation of titles Japanese e-book market come to be mature in near future if the market structure will not change as it is'. This conclusion is a little bit different from CPRC (2013) that say Japanese e-book market is in early stage. So, in this paper we collect consumer data via web survey and analyse them and it reviles the tendency of Japanese consumer for e-distribution services.

The e-book market in Japan is growing in this decade and according to Impress R&D this tendency will be continue. In this paper, we collected 3,000 samples by online survey and found a tendency of consumption of e-book by Japanese consumers.

According to this survey we found 1) attachment to physical objects in Japanese consumers, 2) high MWTP for device and providers.

As previous survey on e-book market in Japan, Ueda (2016) note that 'though limitation of titles Japanese e-book market come to be mature in near future if the market structure will not change as it is'. This conclusion is a little bit different from CPRC (2013) that say Japanese e-book market is in early stage.

So, in this paper we collect consumer data via web survey and analyse them.

According to IFPI (2013) diffusion rate of distribution service in each country are so various. Ueda (2016) pointed that there are two types; US type and Continental Euro (CE) type. In the first one US, UK, OZ, Canada, Korea, Sweden is including. In the second one Japan, Germany, France, Brazil, Dutch, etc. is including. Theoretically this tendency may adapt for that of e-book market like the comparative analysis used by CPRC (2013).

### Collection of data

Most of e-book are sold via the Internet. So, sampling bias may be limited if we utilize online survey. Here is the outlook of Web survey shown by table 1.

In our survey, we treat consumer data to clarify the reality of e-book market in Japan.

**Table 1. Outlook of Web survey**

<b>Surveillance period</b>	<b>25th-27th of March 2016</b>
<b>Internet research firm</b>	Rakuten Research
<b>Total samples</b>	3,000
<b>Sex</b>	Female: 1,500 and Male: 1,500
<b>Age group</b>	to 20s: 600, 30s: 600, 40s: 600, 50s: 600, and over 60s: 600
<b>Surveillance period</b>	<b>25th-27th of March 2016</b>

Our samples are monitors selected by age group and sex in equal spacing from Rakuten Research. Only about 10% of them have an experience using certain e-book services though 36% of them use applications over their smartphones.

While App store (Apple) and GooglePlay is very common in this sample e-book distribution services are minor, distribution rate is less than 10% except kobo. But

kobo and Rakuten Research are one of the affiliated company of Rakuten. Its sample may use more kobo than other samples like free access champagnes or just informed by Rakuten group, so diffusion rate of kobo can be over estimation.

**Table 2. Service in Use**

App Store	GooglePlay	kobo	Kindle	GoogleBooks	honto	iBook	Reader	booklive
36.5%	36.4%	10.3%	8.0%	4.2%	4.0%	3.1%	3.1%	2.1%

E-book users is relatively smaller than that of music download or movie in our sample. According to table 2 most of our samples read e-book via smart phones (13.2%) or tablets (8.7%). This is unlike with that of U.S.A..

**Table 3. Use of e-book Services**

via smart phones	via tablets	via feature phones	via e-book readers
13.2%	8.7%	3.7%	3.1%

This is conformity with previous data like CPRC (2013) and Impress (2016). In our sample user via smartphone of e-book is 14.2% though that of music is 22.5%, that of movie is 20.3%, while 40.0% don't use any of three services. This tendency is very alike with consumption share of physical and digital of music market in Japan showed by IFPI (2013).

In next questionnaire, we asked the reason of consuming contents because check the tendency for ownership in Japan. About half of them (44.1%) purely want to consume contents itself though format (15.2%), confidentiality of purchase (8.4%), design / packaging (7.6%) have meaning rate. So, Japanese consumer in e-book market has same tendency with CE type in music market.

**Table 4. Reason of Contents Consuming**

contents					confidentiality		confidentiality		no	
iself	price	artists	formats	trend	of purchase	kill time	of ownership	packaging	reason	gifts
44.1%	36.5%	17.9%	15.2%	12.7%	11.0%	10.6%	8.4%	7.6%	6.0%	5.9%

According to table 4 tablet (42.4%) is the most common browsing equipment for Japanese e-book user. Following it that of smartphone is 26.7% and that of note PC is 21.2%. According to CPRC (2013) in the U.S.A., e-book reader is one of the common tools to access to e-book but not the case in Japan. And as Ueda (2016) say there is competition in a screen of smartphone / tablet in Japanese contents market including that of e-book, music, movie, game and so on.

**Table 5. Browsers of e-book**

tablets	smart phones	note PCs	desktop PCs	e-book readers	TVs	feature phones	others
42.4%	26.7%	21.2%	12.7%	10.0%	2.1%	1.9%	0.8%

### **Pricing and Market analysis**

In this section, we start discussing the condition of e-book market in Japan.

After we check the WTP for e-book simply we need to check real consumers' preference by using choice type conjoint analysis.

We set six cards for selection in five factors for illustrate e-book services; price, number of titles, point back services, devices, providers.

After we check the WTP for e-book simply we need to check real consumers' preference by using choice type conjoint analysis.

We set six cards for selection in five factors for illustrate e-book services; price, number of titles, point back services, devices, providers.

**Table 6. Factors and Their Standards for Conjoint**

<b>Price</b>	1,000 Yen	800 Yen	500 Yen
<b># of Titles</b>	1 million	0.5 million	
<b>Point Back</b>	5%	1%	Non
<b>Devices</b>	Smartphones (S) and Tablets (T)	S, T, Web browsers (W), and e-book readers (R)	
<b>Providers</b>	Small Ventures (V)	Major Established (M)	

In details are shown in table 6 and a sample set is shown in table 7. We provided six

cards for choice and respondents select one from them and each respondent answered 12 sets of selections.

**Table 7. A Sample set of Choice Cards**

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>	<b>VI</b>
<b>Price (10Yen)</b>	100	100	100	50	80	80
<b>Titles (10,000)</b>	100	50	100	100	100	100
<b>Point Back (%)</b>	0	1	5	1	1	1
<b>Devices</b>	S&T	STW&R	STW&R	STW&R	S&T	STW&R
<b>Providers</b>	V	M	V	M	M	M

We calculate coefficient of each parameters and marginal willingness to pay for four factors. According to table 4 each factor is in significance level by t values and p values. As Ueda (2016) said number of tiles has very weak tile with sales, our result also very limited MWTP for tiles. As 1. Atchariyachanvanich et. al (2008) pointed out that Japanese consumer tend to collect points issued by companies, but in our survey, point also limited MWTP

**Table 8. Conjoint Outlook**

	<b>Coefficient</b>	<b>t Values</b>	<b>p Values</b>	<b>MWTP</b>
<b>Price (100 Yen)</b>	-0.0313	-57.694	0.000	-
<b>Titles (10,000)</b>	0.0090	20.675	0.000	0.288616988
<b>Point Back (%)</b>	0.0036	12.634	0.000	0.115525754
<b>Devices</b>	0.3591	17.661	0.000	11.47401804
<b>Providers</b>	0.4585	27.106	0.000	14.65004962

Sample Numbers	36,000
Logarithmic likelihood	-56436.703

In the centrally MWTP for devices and providers are relatively high. This means that consumers want to read e-book at any devices and they don't want to use services of

small ventures.

## Conclusions

In this paper we had 3,000 samples online survey on e-book. And we brows the market conditions of Japanese distribution market. According to this survey we found 1) attachment to physical objects in Japanese consumers, 2) high MWTP for device and providers.

## Discussions

In conjoint analysis we found that variety of browsers are important. Figure 1 shows willingness to pay (WTP) for e-book compare with paper book aggregated for each device. But in any device about half of consumer has WTP in half price and 10.3% (feature phones) to 26.9% (e-book reader) consumer don't want using e-book at any price.

Though accept rate is just about half device tendency for discount rate of e-book is almost the same. So Japanese e-book-reader-consumer want to pay for e-book about half price of paper book but once s/he buy it they want to read any of her/his devices that s/he has.

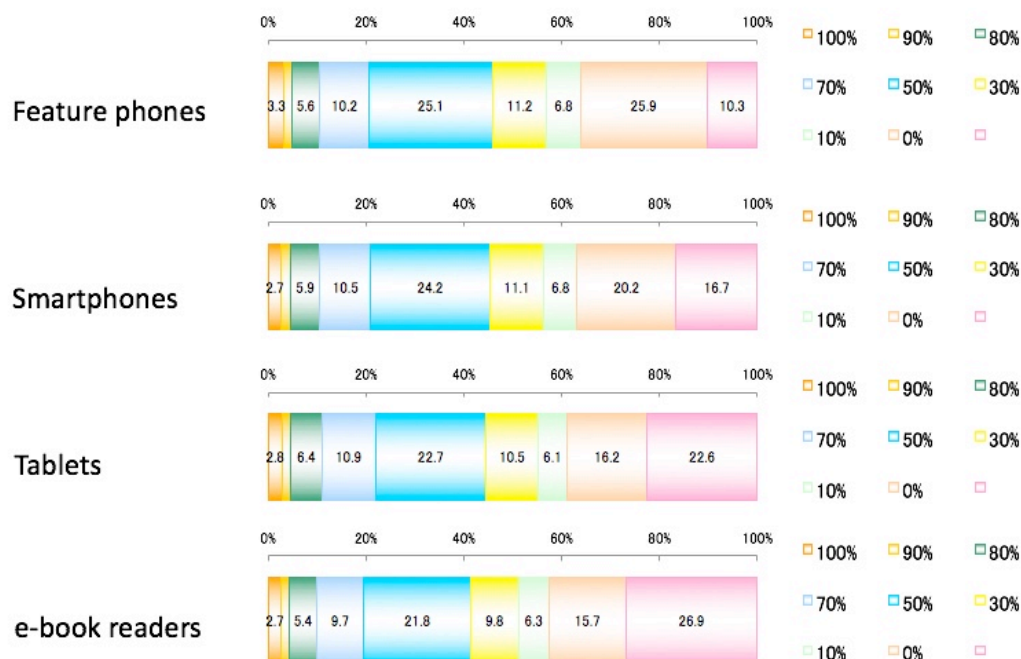
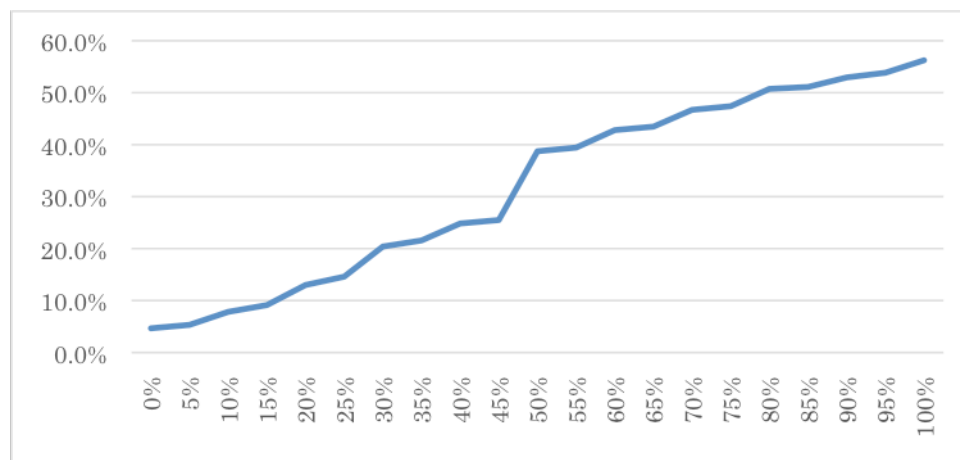


Figure 1. Price standard of e-book

As conclusion Japanese consumer tend to trust authentic companies. We check this tendency by another questions about electricity market. In 2016 spring, full liberalization of electricity market for consumer sales was done. But discount rate is limited and one of the most popular new service is utility service providers, like natural gas companies, mobile phone companies, etc..

Figure 2 is a cumulative graph of discount rate for electric services provided by venture companies. Amazingly 43.8% of sample disagree to accept new service providers even at free for charge. This rate is very similar tendency of e-book market. I mean about half of consumer disagree to use new services and if they use it provided by venture companies price should be about half. From these two sets of data we may say that Japanese consumer has a conservative tendency for new services. But at the same time we may say that this is very natural and it's just following the Rogers' innovators theory; late majority and laggards don't adopt new services.



**Figure 2. Cumulative Graph of Discount rate for electric services provided by venture companies**

## Reference

1. Atchariyachanvanich, Okada, and Sonehara (2008), 'Theoretical model of internet shopping: evidence from a survey in Japan', *International Journal of Electronic Customer Relationship Management* 2(1), pp.16-33.



2. Competition Policy Research Centre, Fair Trade Commission, Japan (2013). “A research on the Japanese e-book Fair Trade Commission”. (in Japanese).
3. IFPI (2013), ‘Global Music Report 2012’.
4. Impress Research Institute (2016), ‘E-book business Research Report 2016’, IRI (in Japanese).
5. Rogers, E., (1962), ‘*Diffusion of Innovations*’, Free Press.
6. Ueda (2016), ‘A Comparative Study on Business Model of Distribution in Japan’, *Journal of Business and Economics*, Vol. 7, No. 7, pp.1111-1117.