Online Privacy
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Privacy Policy (Part II)

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So, while I was actually preparing the class I went through I thought I would actually talk about the NPTEL privacy policy also. Unfortunately there is no privacy policy on NPTEL, which is, there is a privacy policy on 'Swayam'. Terms and services on 'Swayam' website, but there is no privacy policy on NPTEL website for now. I am just flagging it I think it is an interesting discussion right we should have as part of the class to about the privacy policy on NPTEL also.

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As I picked up a few services, quickly we can look at it. We do not have to go through details as we saw in the other services, which is 'Amazon', 'Swiggy', more services popular apps that popular solutions, services that we actually use. This is Amazon and also this would also give you a sense of how detailed some of these policies are. This is updated, we saw the twitter one saying August 19, 2021. This says October 21 2020. So, this talks about and then I am looking at only Amazon.in privacy notice.

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So, the details that they have is, what personal information about customers does Amazon collect, for what purposes does Amazon use your personal information, what about cookies

and other identifiers and again think about it. So, all of this is informing us about, how these companies are actually using the information. I think it will be super helpful, if you go at least read the privacy policy in detail. Go through all the privacy policies of; let us take five of the most popular websites that you use.

Let us take if you are more into e-commerce purchases, you should go to read the services of Flipkarts and Amazons from where you buy and then bring it back to the class. I think it is not about just reading it. Please, bring it back to the class, if there is anything that you find interesting, if it is reinforcing something that we are seeing in the class or if there is some contradictions on these privacy policies also.

Does Amazon share personal information? How secure is information about me? What about advertising? What information can I access? What choices do I have? Or children allowed to use in Amazon services? Look, I think, the children is coming back again. Conditions of use notice and revisions, related practices and information, examples of information collector.

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So, again this the policy is very much in line with the kind of twitter policy that we saw, right, information you give us, information that they collect, information that they collect from other sources for their services, automatic information, we automatically collect and store certain types of information about your use of Amazon services, including information about your interactions with content and services available through Amazon services, cookies, right.

Cookies is something we need to understand a bit more. We use cookies and other unique identifiers and we obtain certain types of information, when your browser or device access Amazon service and other content served by or on behalf of Amazon on other websites. Another thing that you want to keep in another thing, I am sure you have realized it, as I read the privacy policy; they are all very long sentences, right.

They are all very long sentence and sometimes you need to process it, to process it twice, to understand what they are trying to say, right, which is which is something we will see in a few minutes, why it is interesting? We might receive information about you from other sources such as updated delivery and address information from our carriers which we use to correct our records and deliver your next purchase more easily.

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So, these are these are details that, I am sure, you understand, so, for what purposes does Amazon use your personal information. Purchase and delivery, provide and troubleshoot, provide voice, images and voice images and camera services, comply with legal obligations, communicate with you advertising, fraud preventions and credit risks.

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What about cookies to enable. So, I think cookies is something that all of these services use to enable personalization to help them, make choices, recommendations for books, all of that, books are purchases.

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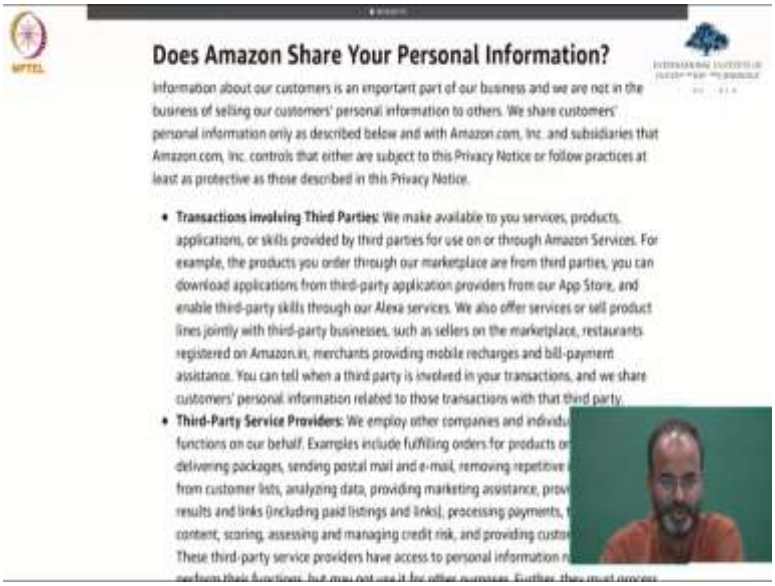

Does Amazon share your personal information? Transactions involving third parties, we make available to you services, products, applications, or skills provided by third parties for use on or through Amazon services. For example, the products you order through our marketplace are from third parties, you can download applications from third-party application providers from our App Store, and enable third-party skills through our Alexa services. So, it is essentially saying, how the third-party information is being collected.

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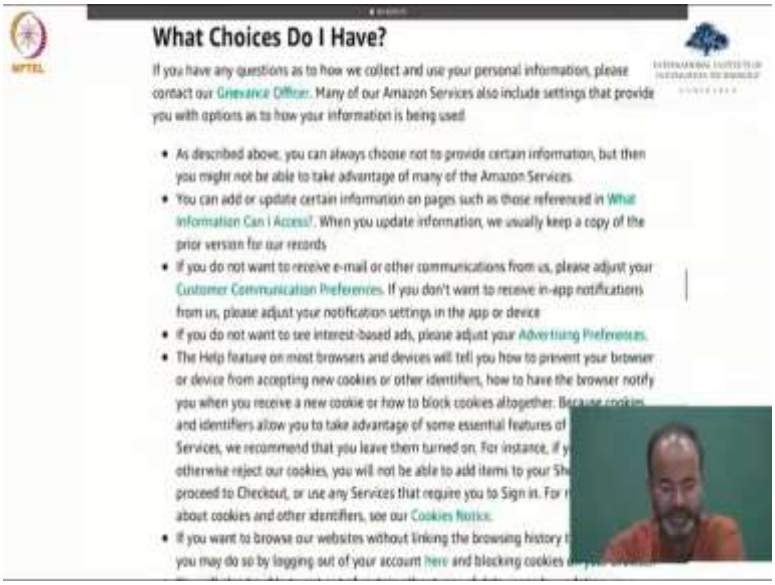

Again, my intent here is not to go through all the entire policy. What about advertising? What information can I access? What choices do I have? Children. So, that is that is Amazon's policy. I am sure by now, you realize that some of these things, when you read them, you get a sense that these companies are also putting in a lot of efforts in creating these policies and telling us what they are actually doing, at least, telling us to an extent possible that how they are doing the business, how they are in, how the information is being used shared and all of that, which is pretty good.

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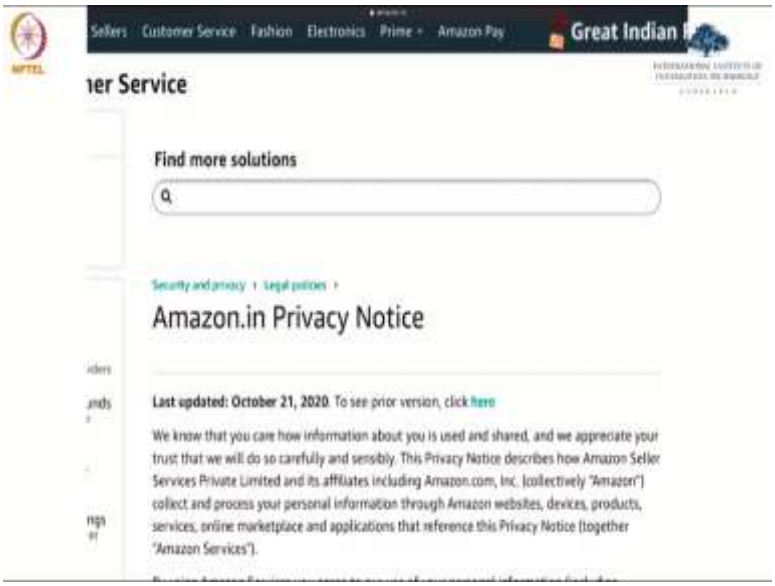

I am meaning, I think, that is why, it will be interesting actually to study here to go, look at the prior versions of the privacy policy and see what changes happen. And are these changes

actually an effective something that is happening in a real world? Some case lawsuit is done against Amazon and the policies gets changed.

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Amazon, Swiggy, I am meaning, I am guessing that these are services that you probably are using and also they are one of the popular apps that you use.

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So, look at the privacy policy of 'Swiggy'. It is not as long as Amazon, but it kind of addresses some of the general FTCs and OECD guidelines. Links to other websites, information we collect from you, device information, in order to improve your app experiences and lend stability to our services to you, we may collect information or employ third party plugins that collect information about the devices you use to access our services including the hardware models, operating systems and versions, software, file names and versions, all that. Interestingly, if you look at this, it also says that improve your app experience and lend stability to our services, we may collect.

So, I think the maze, interesting word that they have kept it there. The cookies our Swiggy platform and third parties with whom we partner may use cookies again, again 'may' here.

So, here they have spent a lot of sort of say explanation about the cookies that they use and details about that.

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We use information, we collect for the following purposes, including: to provide personalized, maintain and improve our products and services such as, to enable deliveries and other services, enable features to personalize your Swiggy account.

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Disclosure and distribution of your information with service providers. We may share your information with our vendors, consultants, marketing partners, research firms and other

service providers or business partners such as payment processing companies to support our business. So, again this third-party sharing is also very common across all the services.

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For crime prevention and investigation, for internal use with advertisers, data security proof, data security precautions, opt-out. So, that is the Swiggy's privacy policy.

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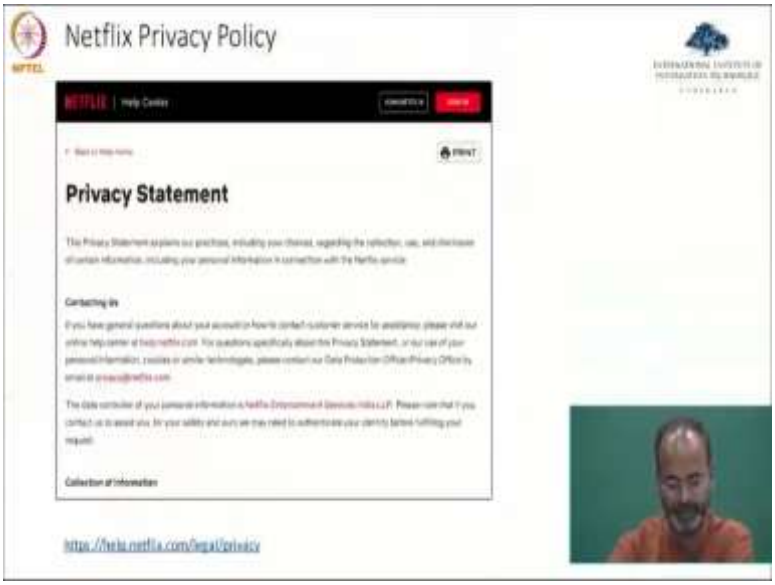

Similarly, I had kept a link for ‘Zomato’ and ‘Uber’ and Ola. Take a look at it. And Netflix, I think. These are, at least I thought that, these are policies that platforms that you may be using regularly. I use some of them very regularly. So, therefore I was also interested in looking at these policies closely taking a good read ahead, particularly the Facebooks and twitters, for sure. So, that is the privacy policy.

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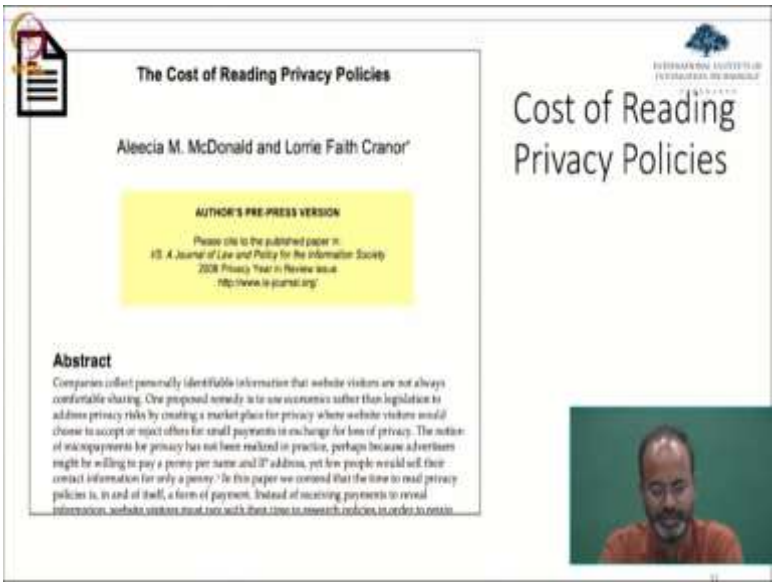

Now I think let us ask this question, this is an interesting that is why I said earlier, keep watch for this topic of ‘how difficult it is to read the policy, how much time it is taking for us to understand the length of the sentences, all that, I flagged it when I was doing it. So, here is a research that was done, which is to say that look if we have to get US citizens, to read the

privacy policy, at least one, at least some of the privacy policies in every given year, at least once, one service that they are reading using.

For example, 'Uber privacy policy' at least once in a year, how much time, resources, money, would it cost, for the entire US? So that is what this research was done. It is a very interesting research in the context of this privacy policy. Let us take a look at.

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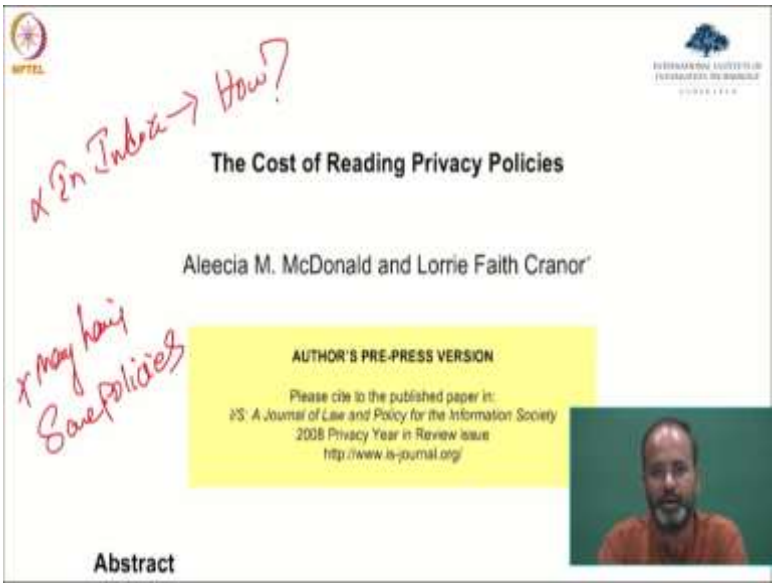

So, that is the paper I think the link of the paper is in the slides, but otherwise it is easy to find this paper. So, the question that I wanted to post to you, as we proceed in doing the understanding the paper also if you see, this actually was done study in the US, the study was done in the US.

And if the study was to be done in India, how will we able to do it? What all information do we need? It will be nice for you to think about it and we can discuss it as part of the mailing list in the class. So, please, think about, after we are done, please think about, how you can actually evaluate the cost of reading privacy policy in India. Even cost of reading privacy policy for yourself I think. If you can think of methods to find that that will be super nice.

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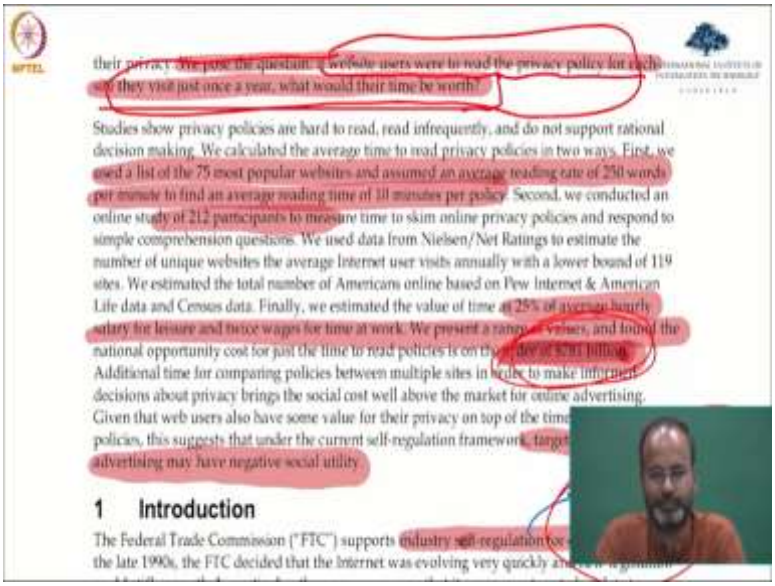

So, this one, we post the question. So, the question that was, that they had in mind was, if websites use users were to read the privacy policy for each site they visit, just once a year, what would their time be worth. So, that is what the question was. Interesting question. So, I think the motivation for this question is also is interesting. Because, what did we see until now FTC, OECD, all of them kept saying that, oh, we should actually have these kind of policies.

And if we expect the user to read the privacy policy then I think there is something we have to understand if you make them to read, would it be good, how much would it cost, return of investment, if you are making somebody to do something, is it worth it, compared to something compared to sort of a value here. Alicia was interested in figuring out what the total cost of the reading would be.

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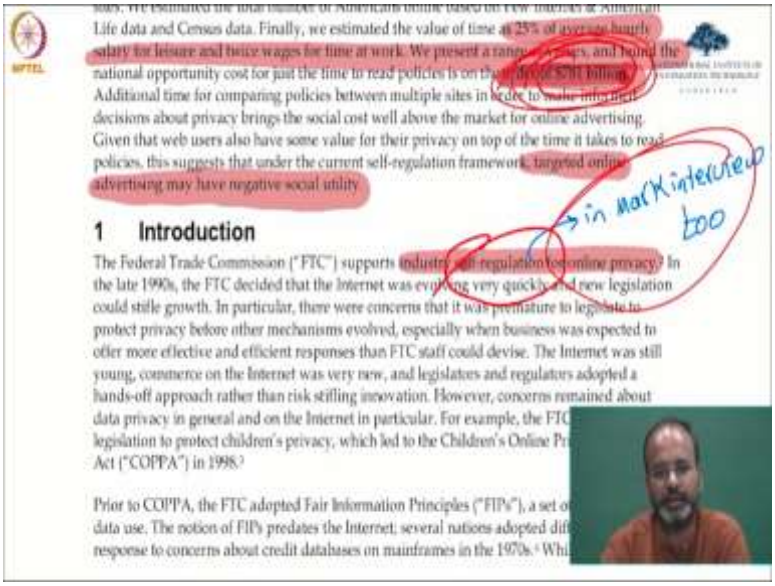

And they concluded that the, if you get the people to do what read the privacy policy it would cost US dollars, 781 billion dollars per year, that is a question. If you get people to read or you want all of them to read the privacy policy, if they read, it is going to cost 781 billion dollars.

Do we really want to spend that much money in getting people to read the privacy policy? So, if you have seen the again Mark Zuckerberg's interactions in the congress, you would connect the self-regulation world there was a question to him about, will Facebook participate in self-regulating in terms of controlling the information of the users.

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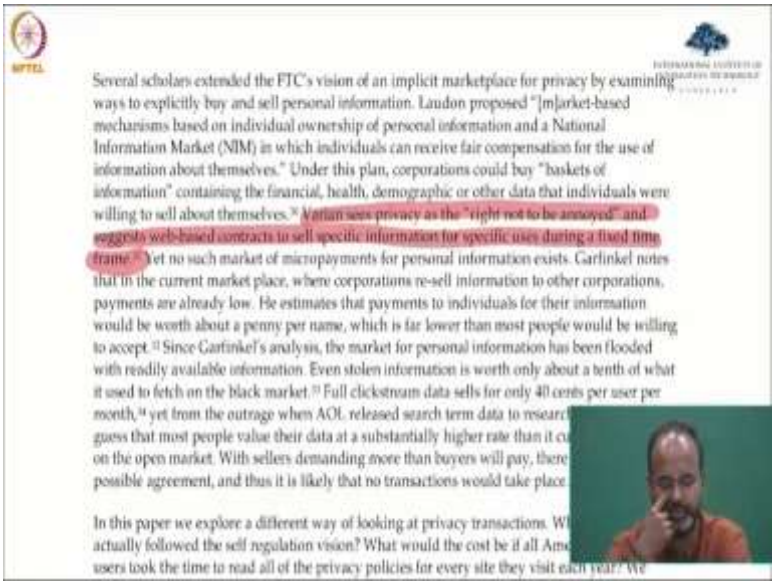

I will let you to read the paper in detail but what all I want meaning; I am going to share the annotated papers also with all of you, as part of the website that I would have, for the course. We will upload these annotated papers also. But, for you to understand the decision, how to come up with the cost, what all do we need? We need, basically to understand, how much time it is going to take for somebody to read the privacy policy. Some number of lines, number of pages, all that.

Then we also need to know the cost of the person, for example, you want to know the cost of me reading a privacy policy versus a student reading a privacy policy. The cost for me may be higher than the cost of the student. Just the value of time, nothing other than that. And it also so, you need that and the difficulty of, so they, in this research they also showed that the difficulty of reading the privacy policy is high. A certain level of language understanding, certain level of cognition is needed to understand the privacy policy.

For somebody to have x level of education and understanding for them, to read a privacy policy, which would be, let us take 10 minutes, 15 minutes to read one privacy policy for one website that you are accessing. If you were to do x number of websites services in a year, how much would that cost, that is what they ended up actually doing.

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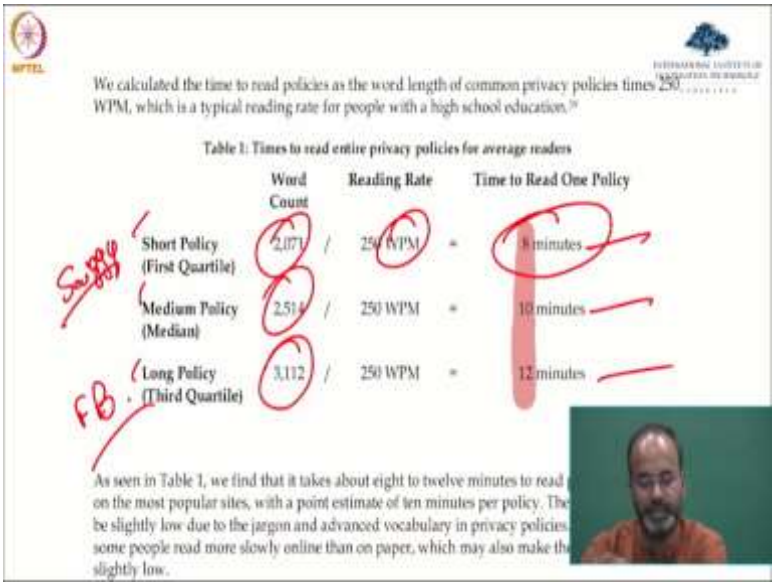

I will show you some of the tables, which would help you to understand. So, this one if you see time to read the entire privacy policies for average readers, which is short policy. They classified this into a short policy, medium policy and a long policy. So, this is 2000 words, 2500 words, 3000 words, this is words per minute. So, this is time to read one policies about 8 minutes, 10 minutes and 12 minutes. So, I can clearly see this. The long policy could be the Facebook type one, short policies would be the Swiggy types one that we saw. So, 8 minute per policy for a Swiggy.

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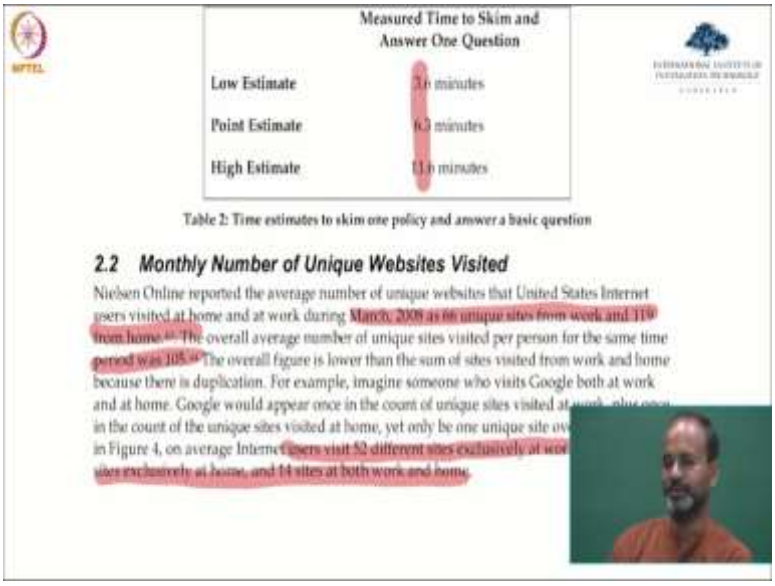

And then this one time estimates to Skim one policy and answer basic questions. So, that is about reading. So, this is about measure time to skim the privacy policy. I am not really reading it. For example, the this part of sections that I did.

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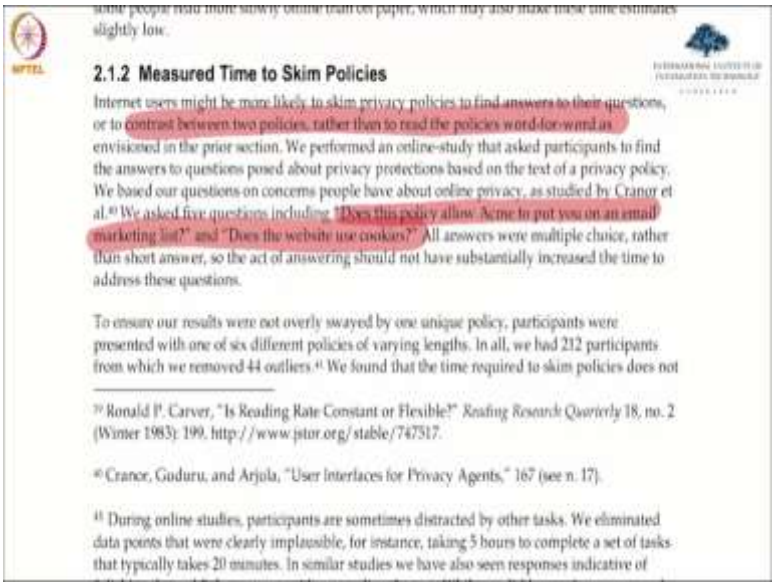

some people read more slowly online than on paper, which may also make these time estimates slightly low.

2.1.2 Measured Time to Skim Policies

Internet users might be more likely to skim privacy policies to find answers to their questions, or to contrast between two policies, rather than to read the policies word-for-word as envisioned in the prior section. We performed an online-study that asked participants to find the answers to questions posed about privacy protections based on the text of a privacy policy. We based our questions on concerns people have about online privacy, as studied by Cranor et al.[40] We asked five questions including "Does this policy allow Acme to put you on an email marketing list?" and "Does the website use cookies?" All answers were multiple choice, rather than short answer, so the act of answering should not have substantially increased the time to address these questions.

To ensure our results were not overly swayed by one unique policy, participants were presented with one of six different policies of varying lengths. In all, we had 212 participants from which we removed 44 outliers.[41] We found that the time required to skim policies does not

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[39] Ronald P. Carver, "Is Reading Rate Constant or Flexible?" *Reading Research Quarterly* 18, no. 2 (Winter 1983): 190, http://www.jstor.org/stable/747517.

[40] Cranor, Guduru, and Arjula, "User Interfaces for Privacy Agents," 167 (see n. 17).

[41] During online studies, participants are sometimes distracted by other tasks. We eliminated data points that were clearly implausible, for instance, taking 5 hours to complete a set of tasks that typically takes 20 minutes. In similar studies we have also seen responses indicative of

I am not really reading the paper here but if you just want to skim "Does this policy allow Acme to put you on an email marketing list" and "Does the website use cookies", highlighted, you are just Skimming through what it means that is about 3.6 minutes. And why do you need it?

Again the numbers that you can evaluate could be that, oh, if you make somebody to read all the privacy policy, entire policy, what would it cost? If you make them only to skim at whatever cost and this is to give some sense of what are the number of websites that somebody could access. Because, for the total number per year, for the user, you need that also.

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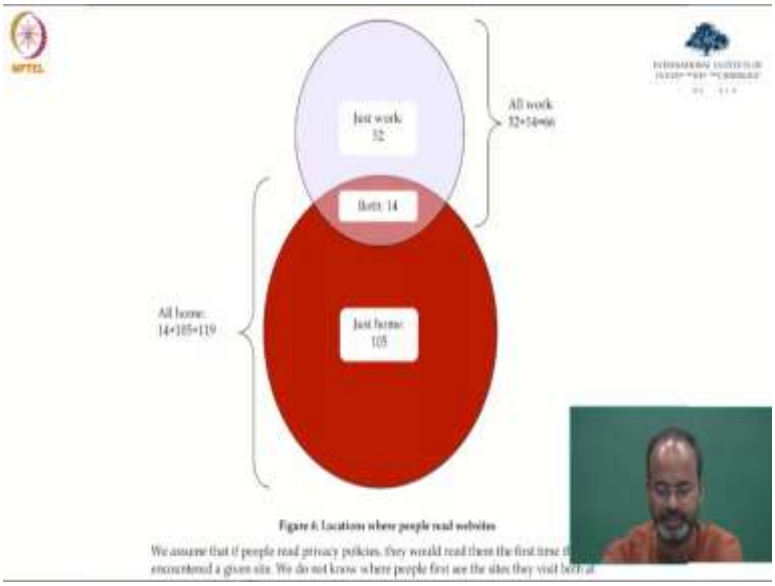

So, this is about the locations where people read privacy policies. Just at work, it is about 52 work and the home is about 66 and at home is about 119 web services.

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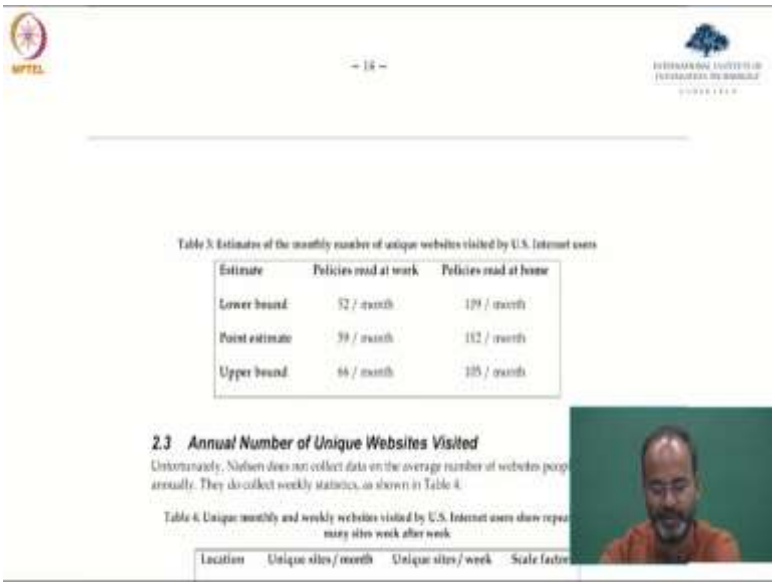
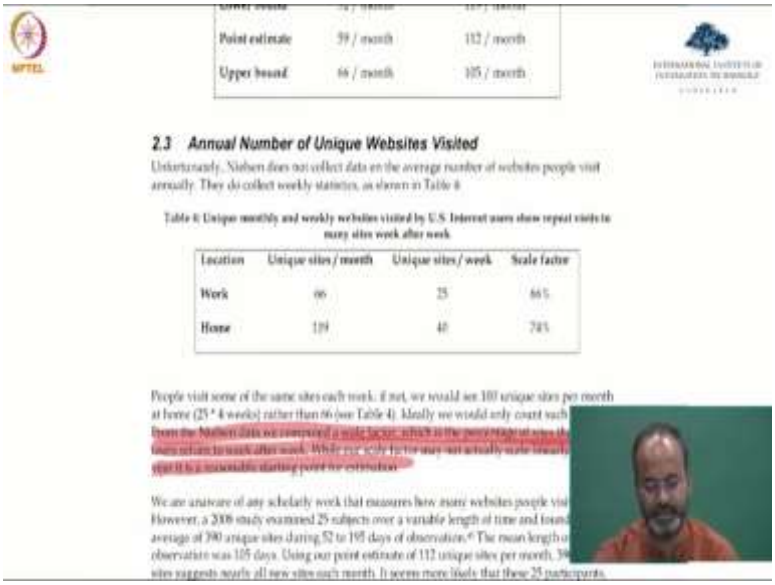




Point estimate	59 / month	112 / month
Upper bound	66 / month	105 / month

2.3 Annual Number of Unique Websites Visited

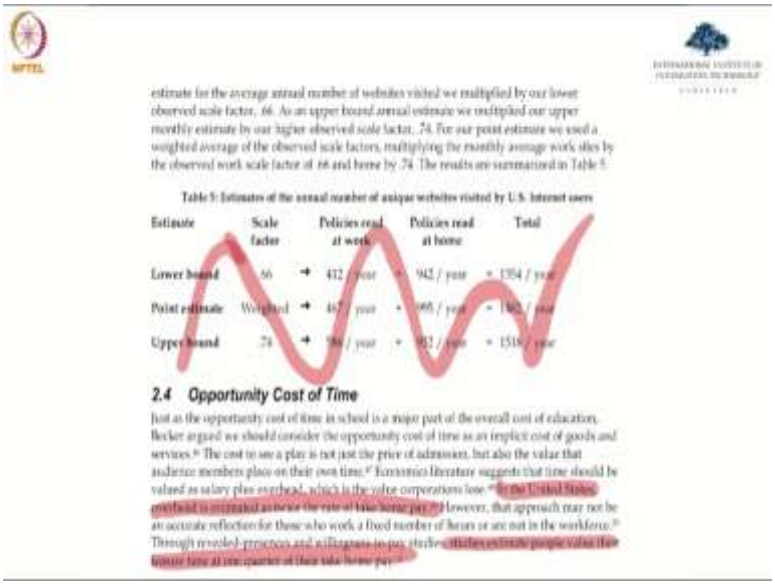
Unfortunately, Nielsen does not collect data on the average number of websites people visit annually. They do collect weekly statistics, as shown in Table 4.

Table 4: Unique monthly and weekly websites visited by U.S. Internet users show repeat visits to many sites week after week

Location	Unique sites / month	Unique sites / week	Scale factor
Work	66	25	66%
Home	139	40	74%

People visit some of the same sites each week. If not, we would see 100 unique sites per month at home (25 * 4 weeks) rather than 66 (see Table 4). Ideally we would only count each [illegible]

We are unaware of any scholarly work that measures how many websites people visi[illegible] However, a 2006 study examined 25 subjects over a variable length of time and found [illegible] average of 390 unique sites during 52 to 195 days of observation.[illegible] The mean length o[illegible] observation was 105 days. Using our point estimate of 112 unique sites per month, 39[illegible] sites suggests nearly all new sites each month. It seems more likely that these 25 participants



estimate for the average annual number of websites visited we multiplied by our lower observed scale factor, .66. As an upper bound annual estimate we multiplied our upper monthly estimate by our higher observed scale factor, .74. For our point estimate we used a weighted average of the observed scale factors, multiplying the monthly average work sites by the observed work scale factor of .66 and home by .74. The results are summarized in Table 5.

Table 5: Estimates of the annual number of unique websites visited by U.S. Internet users

Estimate	Scale factor		Policies read at work		Policies read at home		Total
Lower bound	.66	→	412 / year	+	942 / year	=	1354 / year
Point estimate	Weighted	→	467 / year	+	995 / year	=	1462 / year
Upper bound	.74	→	586 / year	+	932 / year	=	1518 / year

2.4 Opportunity Cost of Time

Just as the opportunity cost of time in school is a major part of the overall cost of education, Becker argued we should consider the opportunity cost of time as an implicit cost of goods and services.[illegible] The cost to see a play is not just the price of admission, but also the value that audience members place on their own time.[illegible] Economics literature suggests that time should be valued as salary plus overhead, which is the value corporations lose.[illegible] In the United States, overhead is estimated as twice the rate of take home pay.[illegible] However, that approach may not be an accurate reflection for those who work a fixed number of hours or are not in the workforce.[illegible] Through revealed-preferences and willingness to pay studies, studies estimate people value their leisure time at one quarter of their take home pay.[illegible]

Again, all of this is just estimate, there is no, I mean I am sure if the study was to be done again now, the number may be different. Either the policy may have changed or the reading speed may have changed in people in the last 10 -12 years, the cost of the people reading them policy and understanding may have changed, all those changes would have happened. So, this is just the same details about annual websites, estimates the annual number of unique websites visited in the US. Again, total number of websites, lower, upper bound, opportunity cost.

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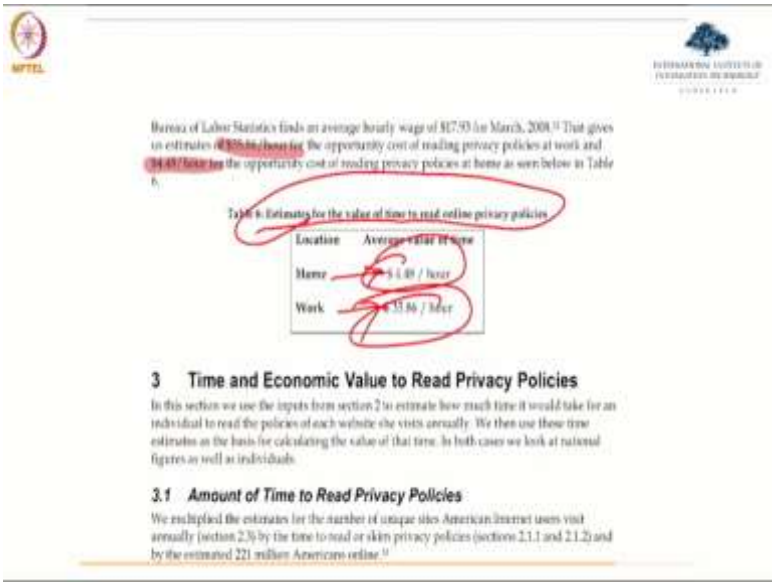

This is where the cost is getting covered, which is the way that they calculated is home estimates for values of time to read online privacy policy. Home is 4.4 dollars per hour; work is 35.86 dollars per hour. Again, using some literature some approximation, some estimations they arrived at this number.

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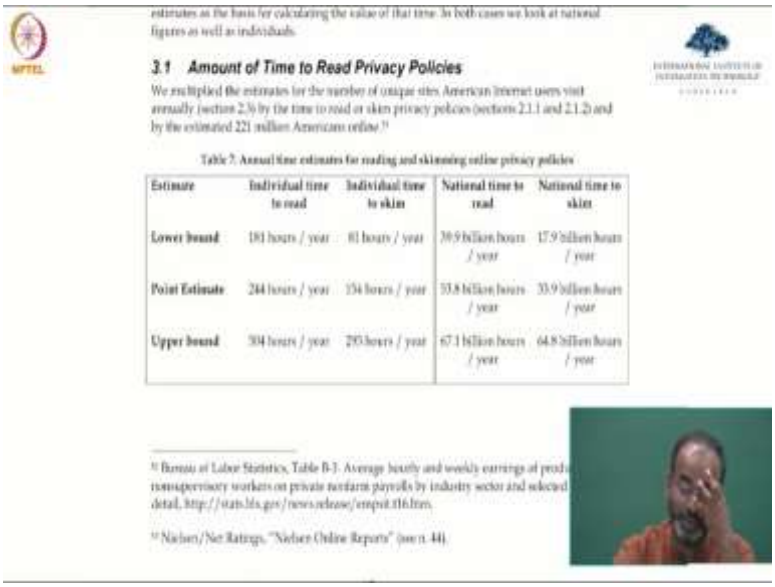

So, if you put all of this together which is the cost of reading number of websites that they are going to access you will get the cost that is what they did here.

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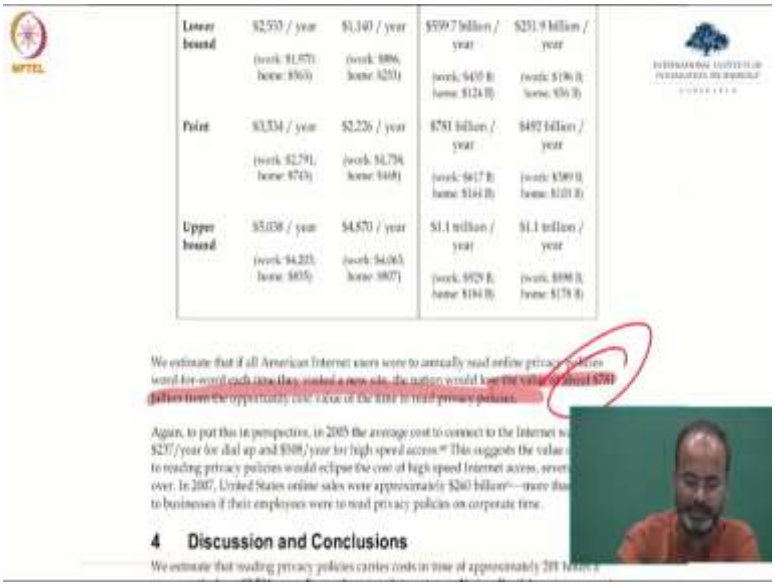

So, that means they arrive at this 781 billion dollars. Interesting, right, interesting. So, take it to do an exercise for yourself, what would be the cost for. Again this is not the real sort of say money value, right, this is opportunity cost. Opportunity cost of me reading a privacy policy if I would have done that at that time if I would have done something else what was the value for that, that is the opportunity cost. So, that is the cost of reading the privacy policy.

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What I am going to recommend? I think last activity, in last class, last week also; I had the activity for you to look at social dilemma, the great hack documentary. So, every week I am going to get you to do something like that and again for the benefit of learning of the content,

if you are interested, feel free to do it, it will not be forced, but, I think it may be very useful for you to learn from these videos. And I think I will ask some questions from these videos, so you probably want to also take a look at that. So, these two videos are, the first one is a 'ted talk' and the second one is a sort of a documentary about the privacy and data and all of that.

So, what I would like you to do is, take a look at these two videos and in the mailing list, answer these questions. What is interesting? What did you learn? What did you not know about? And what would you take care of? Which is after seeing these videos, is there anything that you think you will actually change? Even particularly even going through the privacy policies that we did also, okay.

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So, that is the end of week 2. So what have we done? We did rights to privacy? Which is modular the definitions of privacy, understanding, what privacy is all about, contextual integrity, privacy policies and cost of reading privacy policies. So, this is the summary of week 2. Right to privacy, contextual integrity, privacy policies and cost of reading privacy policies. So, that is the end of week 2. I will see you in week 3.