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Study on web analytics utilizing segmentation knowledge in business to business manufacturer site

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Abstract

Web analytics of B to B sites is mandatory for improving usability and leveraging data for marketing. In this study we tried web analytics by some segmentation and confirmed it is effective. We defined some of the segment models (7 segmentation type) and examined web access using some segments. One of the most important segmentations is registered versus unregistered users and we confirmed user behavior is different with each segment. We confirmed key metrics like bounce rate, referrer, and exit page analysis are especially beneficial for B to B manufacturer site enhancement.

1. Introduction

We posit that there are two purposes of Business to Business (B to B) web analytics: (1) Improve and optimize the site for users by path analysis; and (2) Use in marketing activities. Compared to B-to-C web analytics, B-to-B web analytics has the following three characteristics.
(a) In many cases, the buyer is not the same person as the web user. So it is important to analyse all the users from the same company or organization as a single unit.
(b) The goal of visitors to the website is often not only to make a purchase.
(c) It is rare for a user to complete their goal within a single session. In most cases, users require multiple sessions spread out over a long period of time to complete their goal.

In our previous studies we came up with a web analytics scheme for B to B websites and we also checked effectiveness of page dwell time as well as traditional metrics like page view, unique users, visits per user, and conversion rate. In this study we tried using analytics by segmentation. Firstly we defined the scope of segmentation and next we captured analytic data. Considering B to B characteristics in analytics, we tried to survey the effectiveness of user behavior by segmentation. In this study we utilized a two-months' term of web access data from one semiconductor manufacturer site using web beacon technology.

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2. Previous work

In our previous studies, we came up with a web analytics scheme for B to B websites and we defined B to B site conversion type and importance of user registration on web as reference [15]. In another study we checked effectiveness of page dwell time as well as traditional metrics like page view**,** unique users, visits per user**,** and conversion rate as reference [14]. General web analytic study is shown in reference [1,2,3,4,5,6,7,8,9,10,11,12,13].

3. Web segmentation category

When we think of usability with web analytics method, we need to assume user segments because user behavior can differ by user segmentation. Using some of our surveys, we came up with the user segmentation model shown in Table 1.

Table 1. User segmentation model

Segmentation category	Major segment from web analytics point of view	Considerations
By content category	Viewers of product information versus viewers of investment relations (IR)/company information	Generally speaking user visits are distinguished into IR/company information seekers and product/solution information seekers on B to B sites. In most cases their behavior is completely different.
	User seeking to download software versus e-commerce users	
By time and place	Weekday users versus weekend users Midnight users versus business hour users By country/state By language	Regional aspect and language aspect should be considered but weekend and weekday aspect is not important in B to B business.
By user referrer	Users arriving through search engine, by e-mail clicks, or by bookmark/URL typing	User behavior differences are important in this area. As expected search engine users are not familiar with the site but bookmarked users can be more knowledgeble about the site.
By visit frequency	First time versus second and more frequent users	Site exploration behavior can differ widely between beginners to the site and veterans.
By user commitment level (Registered or unregistered)	Registered users versus unregistered users	Most companies urge potential users to register their profiles in their authentication system. Once they register they have some commitment to provide their information to the manufacturer. Also, the manufacturer can contact them.
By company profiles	Focus customer versus unfocused	Typically for focus customers there is a salespeople channel and visitors don't need to purchase products via the website, but for small customers there is often no channel. So behavior on the website can be very different.
	Large customers versus small customers	
By participation segment	Only web tracking for converted customers or unconverted customers	Conversion is one of the main purposes in B to B manufacturer sites and it is meaningful for distiguishing converted web activity and unconverted activity.

On the other hand, in most manufacturer sites, the following are typical content categories and we assume user behavior can be different due to difference in purpose of visit.
1) Products
2) Solutions
3) Support (FAQ or Contacts)
4) Download or resources
5) Purchase
6) Press or news
7) Seminar/Training
8) User registration/Login

In our past studies, we saw key contents, which are sometimes called hook contents, which require authentication and user registration to view. Once users register their profiles, they are regarded as committed potential or existing customers and then the manufacturer can contact them within the limits of the privacy policy. In addition, we can say registered users are more interested in manufacturer information than unregistered. In typical cases, an unregistered visitor can be just a visitor and they probably came to the site by chance through a search engine like Google. Registered customers sometimes want to get updates from the manufacturer. A web journey map is shown in Fig.1. We defined processes as Lead/Find, Explorer, Try, Buy, and Maintain. In a B to B site we need to consider offline activity linked with on-line activity because

face to face sales activity is key to success of business. That is why user registration is the most important and manufacturers urge visitors to register profiles. Please refer to Fig. 1 for the B to B manufacturer web journey map.
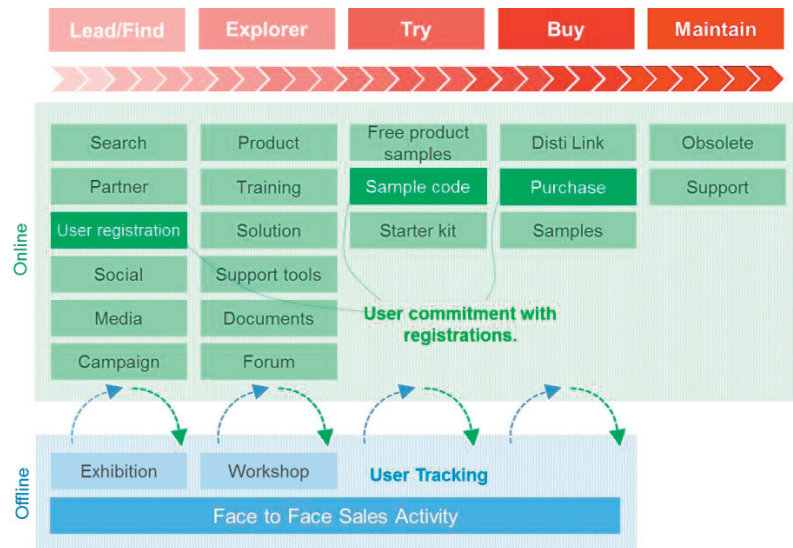

Fig. 1. B to B manufacturer web journey map

4. Page dwell time by segmentation

4.1. Page dwell time by content segment

We picked out 50,000 pages from a manufacturer site and observed page dwell time statistics using a frequency distribution chart as shown in Fig. 2. There is a long-tail type trend and the most frequent page dwell time is from 1 to 17 seconds. We also have many cases with longer dwell time. As a site overall this is the typical trend also seen in past studies.
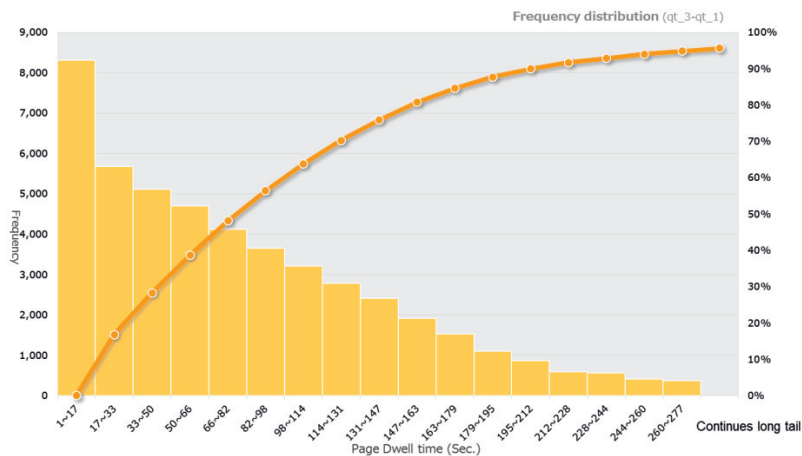

Fig. 2. Typical page dwell time frequency distribution chart

However, if we pick out key landing pages which are mostly important content for both users and the manufacturer, the statistics differ from the general trend. Please refer to Fig. 3 and Fig. 4. In most cases with key landing pages it

seems the most frequent page dwell time is different from overall site statistics, i.e. long tail. There are two types of content on websites. One is index type and the other is key landing page content. The overall site statistics include many index pages. So once we just take key landings we can see the average time and most frequent time easily. We can design websites or improve page flow using these statistic data.
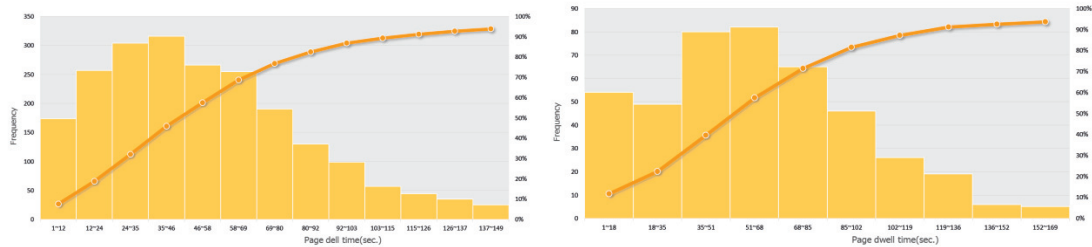

Fig. 3. (a) Product spec page (b) Seminar page: frequency distribution chart
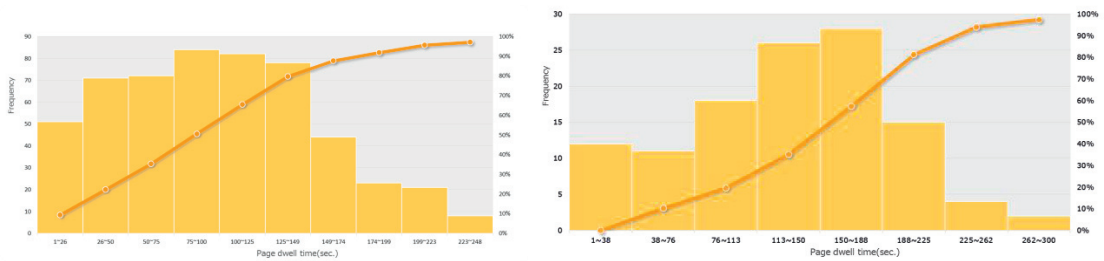

Fig. 4. (a) Press release (b) Web magazine: frequency distribution chart

4.2. Tracking participation for conversion

   "Conversion" means the achievement of a user's final goal in web activity. In typical B to B markets the conversion target of a website is not necessarily a purchase, unlike in Business to Consumer markets. Objects download for program source, document download, and sales inquiry can be conversions sometimes. User registration especially is the most common conversion for websites. We did many surveys on which metric is more related to conversion participation and we didn't find a strong relationship between page dwell time and conversion participation, as shown in Fig. 4.
However we see there is most likely a direct proportion between page views and participation.
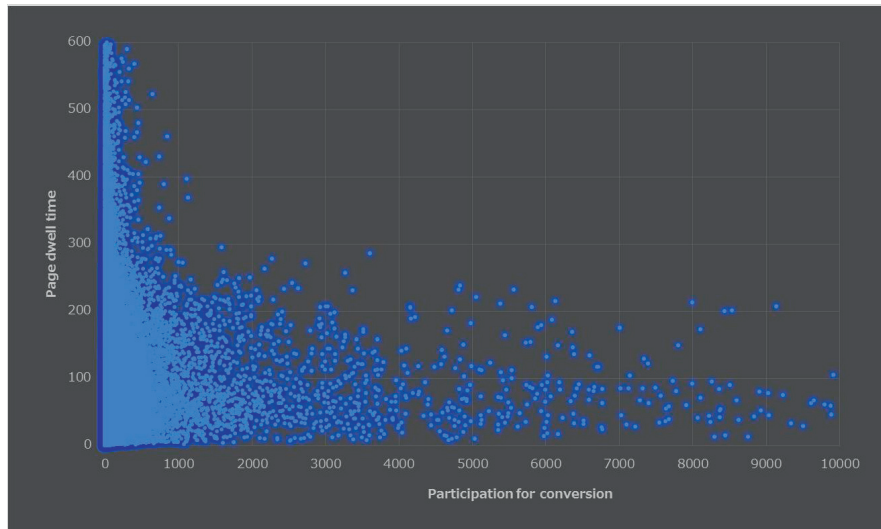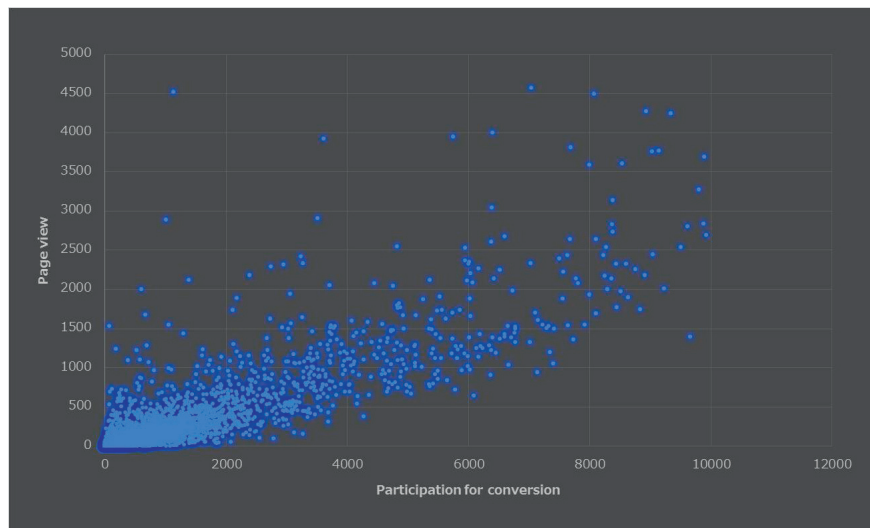
Fig. 4. Typical page dwell time

Fig. 5. Product spec participation dwell time

5. Web analytics by registered and unregistered user segmentations

   As we stated earlier in this report user registration is one of the key conversions in a B to B site and manufacturers can consider the following in regard to user registration.
1) Need to urge visitors to register with several promotions. Once they are registered the manufacturer can get contact information and a highly qualified customer list.
2) Web behaviour can differ completely between registered and unregistered users. Need to define the differences and use the results to create a web usability strategy optimizing each segment.
   Table 1 shows the differences in bounce rate. "Bounce rate" means the rate of visits in which a user comes to a page but exits the site immediately. In this table the bounce rate of generally unregistered users is relatively higher than that of registered. In particular the homepage is normally a frequent entry page but the bounce rate is high for unregistered users. Registered customers continue seeking information more often than unregistered users.

Table 1. Bounce rate by registered users and unregistered users

Pages	Registered users			Unregistered users			Unregistered-Registered bounce rate difference
	Visit (number)	Visit (%)	Bounce rate	Visit (number)	Visit (%)	Bounce rate	
Total	**16,823**	**100.00%**	**20.09%**	**104,720**	**100.00%**	**48.69%**	**-29%**
Home	6,718	39.93%	12.23%	27,201	25.97%	25.63%	-13%
PartNoSearch:SearchResults	2,799	16.64%	13.83%	9,041	8.63%	19.63%	-6%
Login-Case1	2,082	12.38%	0.00%	2,988	2.85%	0.00%	0%
KeywordSearch:SearchResults	1,264	7.51%	16.67%	2,638	2.52%	17.50%	-1%
Disclaimer	1,088	6.47%	33.33%	882	0.84%	31.91%	1%
Login-Case2	949	5.64%	0.00%	83	0.08%	0.00%	0%
A Product	928	5.52%	8.22%	2,032	1.94%	20.63%	-12%
B Product	921	5.47%	12.50%	1,697	1.62%	26.20%	-14%
Supporting tool category	863	5.13%	10.81%	1,400	1.34%	28.23%	-17%
Product category	709	4.21%	4.42%	2,929	2.80%	13.50%	-9%
C Product	664	3.95%	12.86%	3,024	2.89%	21.71%	-9%
Supporting tool A	581	3.45%	16.08%	995	0.95%	31.91%	-16%
C Product	560	3.33%	18.18%	770	0.74%	27.87%	-10%
Press release一	454	2.70%	47.83%	7,999	7.64%	78.12%	-30%
Supporting tool B	429	2.55%	8.70%	634	0.61%	29.09%	-20%
D Product	406	2.41%	10.00%	992	0.95%	23.00%	-13%
E Product	400	2.38%	13.64%	1,582	1.51%	27.24%	-14%
Supporting tool C	396	2.35%	11.35%	1,070	1.02%	33.71%	-22%
F Product	394	2.34%	16.67%	430	0.41%	30.00%	-13%

Table 2 shows how users reach the site. Using referrer logs in the http protocol we can see what percentage are coming from search engines, e-mail blast, and so on. As we expected, more unregistered users come to the site via a search engine than registered users.

Table 2. How users reach the site

Referer type	Registered users		Unregistered users		Unregistered - Registered reach through rate difference
	How do users reach the site? (Reach through number)	How do users reach the site? (Reach through %)	How do users reach the site? (Reach through number)	How do users reach the site? (Reach through %)	
Total	**20,711**	**100.00%**	**137,960**	**100.00%**	**100.00%**
Search Engines	9,518	45.96%	91,783	66.53%	70.16%
e-mail	6,124	29.57%	26,382	19.12%	17.28%
Other Web Sites	4,996	24.12%	19,004	13.78%	11.95%
Social Networks	73	0.35%	791	0.57%	0.61%

Table 3 shows which pages are exit pages and exit times/total visit times. In this case registered users stay on the site ("stick") longer and for example the homepage isn't a frequent exit page even though unregistered users have a high rate of exiting from the homepage.

Table 3. Exit frequency in pages (top 10)

Item	Registered users			Unregistered users			Registered - Unregistered difference (%)
	Exit times from this page	Visit times	Exit times/Visit times (%)	Exit times from this page	Visit times	Exit times times/Visit	
Total	**16,673**	**16,806**	**99.21%**	**101,509**	**103,088**	**98.47%**	**1%**
1. Home	1,230	6,715	18.32%	9,691	27,077	35.79%	-17%
Disclaimer	671	1,088	61.67%	612	880	69.55%	-8%
PartNoSearch:SearchResults	638	2,798	22.80%	2,545	9,027	28.19%	-5%
Login type 1	596	949	62.80%	52	82	63.41%	-1%
Login type 2	567	2,082	27.23%	1,014	2,985	33.97%	-7%
KeywordSearch:SearchResults	244	1,264	19.30%	511	2,611	19.57%	0%
Press center	185	454	40.75%	5,836	7,977	73.16%	-32%
Gadget	157	263	59.70%	793	1,083	73.22%	-14%
Supporting tools	105	580	18.10%	260	994	26.16%	-8%

Table 4 shows duration of site visits by registration segment, In this case also we can see registered users' "stickiness" to the site. Half of registered users come to the site every day. That's why manufacturers make much effort to urge visitors to register their profiles and keep them updated.

Table 4. Duration of visits

Duration of visits	Registered user visits	%	Unregistered user visits	%
Total	**16,823**	**100.00%**	**104,720**	**100.00%**
Less than 1 day	8,520	50.64%	18,753	17.91%
Less than 7 days	4,411	26.22%	13,809	13.19%
More than 7 days	1,905	11.32%	13,384	12.78%
First Visit	738	4.39%	38,720	36.97%
More than 30 days	303	1.80%	12,069	11.53%
Cookies Not Supported	18	0.11%	943	0.90%

6. Conclusion

For B to B sites we have several personas (use case by segment) and web analytics need to be done by segment. We defined some of the segment models and examined web access using some segments. One of the most important segmentations is registered users versus unregistered users. User behaviour is very different with each use case. Bounce rate, referrer (how they reach the site), and exit page analysis especially are beneficial and we can see that registered customers' stickiness to the site/company is much stronger than that of unregistered users. This can be measured by some metrics by segment, like duration of visit.

We studied some web analytics by segmentation and saw their effectiveness. For the next study we will try targeting contents distribution (different contents for different users) linked with web analytics by segmentation. Also we will study a personal level analytics scheme for B to B sites, not just group level analytics.

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