

PRODUCT DEVELOPMENT

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HOW PRODUCT DEVELOPERS USE THE INTERNET

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How much does the Internet help product developers? Are there common, online sources that product developers use for finding information or staying informed on a regular basis? These were the questions behind a recent survey conducted by The Management Roundtable (MRT) and New Product Dynamics (NPD).

In the October 2000 issue of the PDMA's *Visions* magazine, New Product Dynamics published the results of a previous survey on the reading habits of product developers. One observation in that article was that, increasingly, product developers do not read print media but are turning to various online sources. Based on this finding, the authors of the present article conducted research on how developers use the Internet.

The Survey

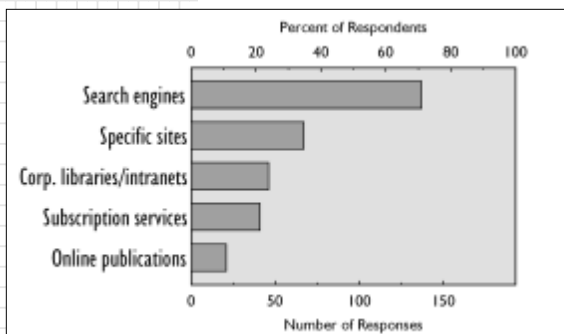


Figure 1: Sources Consulted for Specific Product Development Issues

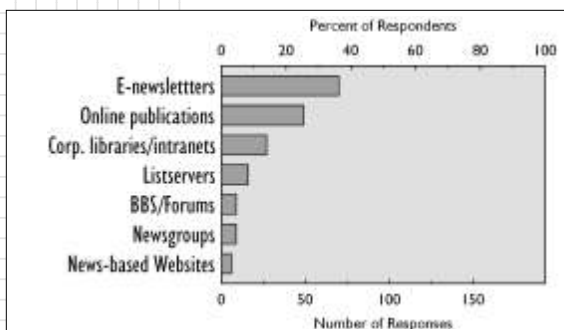


Figure 2: Sources for Regular Product Development Updates

In keeping with our topic, the survey was conducted entirely by email. MRT and NPD distributed a brief, 2-question survey to a combined database of 6112 valid addresses. 193 usable responses were collected for a response rate of 3.2 percent. While we acknowledge this to be a lower rate than we anticipated, we feel comfortable that this provides us with a qualified slice of meaningful data. The survey involved complicated questions in a very immature area, which may explain the less-than-anticipated response. Many who did respond provided lengthy explanations of their online behavior and shared their favorite links. We also received numerous responses reporting that the participant *did not* use the Internet to find information related to their product development responsibilities.

Our survey asked two primary questions:

1. If you need information on a *specific product development issue*, where would you start an online search?
2. Which online services do you use to *regularly keep up to date* on product development best practices?

To ensure that respondents considered a variety of potential sources, we suggested several categories for each question. For example, the first question suggested search engines, specific websites, online subscription services, and corporate libraries or intranets. Then, for each of these categories, we invited them to list specific preferred sources. This approach allowed respondents to answer either simply or in more detail.

Figure 1 tallies responses to the first question, that is, the types of sources developers consult for resolving a *specific product development issue*. About 70 percent of the respondents (137 of them) primarily use search engines for this task. About half as popular are specific websites, which we presume have been bookmarked. Then, in decreasing order are online corporate resources,

such as libraries and Intranets; followed by paid services; and finally, online versions of traditional periodicals, such as *JPIM* or *Design News*.

Figure 2 displays findings related to the types of sources used to *regularly keep up to date* on the latest advancements. Notice that the number of responses is lower for this question. Apparently, online sources are not as popular for *ongoing updates* as they are for addressing *specific issues*.

Also notice the different types of sources used for this task.

Only *online publications* and *corporate libraries/intranets* appear on both lists.

Tip #1: Search Engines

For a comprehensive guide to conducting Internet searches, we recommend visiting The Search Center (www.tka.co.uk/search/home.htm), with many resources and links related to conducting effective searches. For a look at the possible future role of peer-to-peer networks and semantic search engines, see "Internet Search: The Next Generation" in the April issue of Management Roundtable's email newsletter – *The Critical Path* (www.roundtable.com/Critical_Path/Volume3/Critical-Path-Issue-3-4.html)

In Search Of – Favorite Search Engines

Search engines were by far the preferred starting point for finding information. While this is hardly groundbreaking news, we did discover that product developers differ slightly from the general population when it comes to search engine preference.

Respondents mentioned thirty different search engines, but only about half of these received more than a single mention. Listed as #1 on our survey, Google is often cited as the highest quality engine that employs an automated spider. Close follower

Yahoo, by contrast, has partnered with Google to provide web page search results as a third option behind their categorized listings, which are compiled by human editors. Due to this overlap, one could conclude that the quality of Google's search ranking system has been recognized as effective by product developers as a whole. By comparison, all other engines received relatively few mentions.

In contrast, while research conducted by Media Metrix identified Yahoo as the most popular search engine (based on monthly ratings for January 2001 - <http://searchenginewatch.com/reports/mediamatrix.html>), product developers' #1 choice, Google, occupied their #12 position.

Interestingly, no other engine mentioned in our top six was listed in the MM top five. Media Metrix survey respondents are composed mostly of home users, but one could argue that the results are comparable since there are no popular search engines geared specifically for business use.

Most Popular Websites

Seventy-six unique sites were mentioned as preferred resources, but only twenty received more than a single mention. The sites of Management Roundtable (28 mentions, www.ManagementRoundtable.com) and New Product Dynamics (6 mentions, www.newproductdynamics.com), figured prominently, but this was expected considering the source of the survey population, and should be interpreted as biased results. Other websites receiving multiple mentions were PDMA (14 mentions, www.pdma.org), the Institute of Electrical and Electronics Engineers (5 mentions, www.ieee.org), and the Project Management Institute (5 mentions, www.pmi.org). Note that the latter three are longstanding professional associations. This suggests that newer web-based entities have yet to achieve significant followings.

Similarly, many of the sites mentioned are product, industry, or function-specific. For instance, many of the sites were related to software development. Some potentially useful general-purpose sites reported by respondents were the Product Development Forum (www.npd-solutions.com/pdforum.html), the Society of Concurrent Engineering (www.soce.org), and Thomas Register (www.thomasregister.com).

Subscription Services

These are services for which one must pay a fee to access the bulk of the content. The top three here are NERAC (7 mentions, www.nerac.com), Teltech (7 mentions, www.teltech.com), and the

Wall Street Journal (5 mentions, public.wsj.com/home.html). Some others of general interest are *Product Development Best Practices Report* (www.pdbpr.com), and Northern Light Special Collection (www.northernlight.com/docs/specoll_help_overview.html).

The general lack of success of subscription services is not limited to business-oriented providers, and shows that the Internet's "free culture" remains at odds with for-profit information sellers. Recently, Wall Street Journal's online presence, WSJ.com, announced a round of layoffs, proving that even a strongly branded incumbent cannot overcome this free information phenomenon. Time will tell if resources with more narrowly-focused content, such as Teltech and NERAC, will have a greater chance of profiting from subscription fees. However, they must do so from smaller markets and lower volumes. This is unlikely to change in the near future. The proliferation of providers of free information provides little incentive for users to pay for services unless the information is of critical value.

E-Mail Newsletters & The Decline of the BBS

Today, e-mail newsletters are easily the most popular means of keeping informed. This has not always been the case. A few years ago bulletin board systems (BBS), then newsgroups, and then listservers were popular online forums, but our survey indicates that this is no longer so. One reason for the decline of BBS and listservers is the poor signal-to-noise ratio of such discussion groups due to the increasing number of inexperienced participants as the Internet rapidly expands. Usenet, email list servers and other discussion groups may still be popular in other areas, such as entertainment, but are not widely used by product developers.

E-mail newsletters are effective for numerous reasons, most obviously because they are almost always free. They are also typically very tightly focused, delivered to the desktop, and provide information in a "digest" format that is easily shared. Add the fact that they can be disposed of at the click of a button, and their appeal is no mystery.

There are no strong favorites here. Sixty-one e-newsletters were mentioned, but only 12 received more than a single mention. Top runners are The Critical Path (33 mentions, www.roundtable.com/Critical_Path/Critical-Path-Index.html), the Quick Tip (10 mentions, www.newproductdynamics.com/quick_tip.htm), Computerworld (3 mentions, www.cwrl.com/nl/sub.asp), and InformationWeek (3 mentions, www.informationweek.com/newsletters). Again, the prominent placement of MRT's and NPD's offerings was anticipated due to the source of survey participants, and should be interpreted accordingly.

Online Publications

Again, this is a fragmented but popular group. Front-runners, out of the 52 mentioned, are *Design News* (5 mentions, www.manufacturing.net/magazine/dn), *JPIM Online* (5 mentions, www-east.elsevier.com/pim), *CIO* (4 mentions, www.cio.com), *InformationWeek* (4 mentions, www.informationweek.com), and *Machine Design* (4 mentions, www.machinedesign.com).

In general, we observed that the more computer-savvy respondents were far more likely to use online sources. This is illustrated in the fact that two information

Tip #2: Finding Pertinent E-newsletters

First, find websites that interest you – sites listed elsewhere in this article and sites of pertinent professional organizations, suppliers, competitors, and online periodicals in your field – and browse them to see if they issue an e-newsletter. To manage the data load, you can filter all of these e-newsletters into a special mailbox. One area of general interest to product developers – teams – has two e-newsletters that surfaced in the survey: TeamWisdom Tips (www.partnerwerks.com/TeamTips), and Timely Tips for Teams (www.qci-intl.com).

technology (IT) publications rank highly, even though IT is a relatively peripheral part of product development with only a small representation among those to whom the survey was sent. We also noticed a higher proportion of responses – and more detailed ones – from higher tech areas.

Tip #4: Building an Open Proprietary Site

One respondent suggested an easy way to build an open proprietary site: BookmarksPlus (www.bookmarksplus.com). With this free service, you may build a proprietary set of corporate Web bookmarks on their hosted server. Your bookmarks are password protected, and any employee with the password can add to or use the bookmarks. This system is ideally suited to smaller companies that may not be able to afford more traditional corporate sources. If you would like something a bit more formal than this, visit Teltech or Northern Light and look at their offerings.

Corporate Libraries and Intranets

Proprietary corporate online resources rank highly for both problem solving and for general product development updates and information. Those who reported using them, however, tended to be from large organizations with ample IT resources. While good intranet sites may provide more focused and relevant content, they may also be restrictive, incomplete and limited to internal knowledge. To determine the types of blind spots that may occur with corporate online services, we conducted a short follow-up survey asking the following yes/no questions:

Does your corporate online resource:

- provide direct links to direct competitors' Websites? (Yes – 35%)
- provide direct links to suppliers/vendors that may not yet be approved by Purchasing? (Yes – 23%)
- provide direct links to alternative methods of product development that may differ from their normal approved methods? (Yes – 29%)
- provide direct links to conferences, seminars, or shows as sources of outside information? (Yes – 32%)

We conclude that, by all four measures, few internal corporate sites encourage the consideration of alternative approaches; therefore, individuals with access to such resources should seek out external information for a balanced perspective.

Conclusions

It is clear that no widely used portal for product development information has emerged, and that Internet research is still very much an ad-hoc activity. We might hope for a single body of product development “best practice” knowledge, but the field is probably too diverse for this ever to happen. In the meantime, your best bet is to create custom bookmarks to useful web sites, invest in learning how to use a few search engines well and subscribe to a few e-newsletters that are germane to your work.

Product developers' use of the Internet does not seem more or less advanced than the general mainstream. It is probable that business-specific usage such as online exchanges/marketplaces and collaboration tools will drive the Internet's growing value to product developers, as more and more tangential functions become connected. As such, experienced users of Internet resources will be best prepared to leverage value in the future online world, and will therefore have the advantage over beginners.^P_D

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