



LEO J. SHAPIRO & ASSOCIATES LLC.

November 2, 2007

## Striking Breakout In GIS/GPS Consumer Market Spill-over Impact Likely On Specialized Uses of GIS

---

Today's online mapping tools have achieved striking penetration into the every-day lives of Americans, and new GPS-enabled personal navigation devices (PNDs) are leapfrogging past early-adopter growth and are surging almost directly into widespread, mainstream usage, according to data from a just-completed study by the Leo J. Shapiro and Associates (LJS) research firm.

With the GPS-enabled PND and consumer mapping marketplace roaring into a period of explosive growth, look for pitched battles among incumbent (and newcomer) brands as they race for dominance in this burgeoning market. This consumer-market turmoil is likely to gain energy as it continues to tap the "high-tech Rosetta Stone" qualities of GPS-enabled services, and the tumult could have significant spill-over effects on more technical GIS applications.

More specifically, data from phone interviews conducted in early October of a national sample of 450 Americans show the impressive extent to which online mapping tools play central roles in the daily lives of Americans.

One striking finding is the extent to which Web-based mapping services have eclipsed traditional tools as mainstream sources of information about the world.

- A strong majority (60%) report that – in the weeks preceding the interview – they had used a geographic website (e.g., MapQuest, Google Maps).
- This is twice the percentage (30%) that report using traditional on-paper maps.

The interviews also provide strong evidence that the new wave of highly-advertised GPS-enabled PND services are leapfrogging past early-adopter growth and moving almost directly into widespread usage.

- Nearly everyone surveyed (94%) said that they have heard of GPS.
- Nearly one-third (32%) reported having used a GPS-enabled unit, include one in six (17%) who reported such use in the past month.

The study also found that significant majorities speak very favorably of their experiences with online mapping tools and GPS-enabled offerings.

Users of online map sites were asked to rate their experience with the Web-based offerings on a scale of “very satisfied,” “somewhat satisfied,” and “not satisfied”:

- 64% reported that they were “very satisfied” with the services.

Using the same rating scale, the public response to GPS-enabled PNDs was even more favorable:

- 79% of those who used them for travel directions reported that they were “very satisfied” with those features.
- 72% of those who used them for information about restaurants, gas stations, or stores similarly reported that they were “very satisfied.”
- 43% of those who used them for traffic info reported that they were “very satisfied.”

The national poll also found that, in contrast with the usual patterns of diffusion of new technologies, the purchase and use of GPS-enabled devices is not confined to the segment of the population in which ‘early adopters’ generally are concentrated – e.g., the young, highly educated, affluent. Today’s GPS-enabled devices are being adopted by anyone using maps or other forms of digital mapped data, including the middle-aged and elderly.

This turbo-charged adoption is partly driven by “high-tech Rosetta Stone” qualities of GPS-enabled services which enhance and multiply the value of previously existing GIS tools and services. Because so many databases include locational information, these place-fixing datapoints can be used to readily create extremely powerful and useful “mash-up” applications.

Moreover, the surge in online mapping tools and GPS-enabled devices can also be understood in the context of an even larger framework that relates to the deep role that spatial-cognitive abilities have played in human development, dating all the way back to the hunter-gathers on the African savanna.

The abilities that are required to identify and recall a location, and to associate it with specific attributes or qualities, are considered to be among the most important cognitive skills needed for survival. Nearly half of the brain’s neurons are said to be involved, in one way or another, in the processing of visual information. This means that, in effect, the new high-tech tools are enabling humans to re-engage their powerful spatial cognition abilities to more effectively address a host of problems they face on a daily basis.

Put it all together, and it is easy to understand how these are combining to help GPS-enabled devices achieve significant adoption with exceptional speed, and why the new offerings to leapfrog beyond the patterns of market penetration typical of other new technologies.

And, as this breakout unfolds, look for intensifying marketplace competition among the incumbent (and newcomer) brands as they race for dominance in this explosively growing market. Brands currently leading for awareness include: Tom-Tom, Garmin and Magellan.

However, the competition has only just been joined. Today’s top brands will face serious challenges, and some of the current leaders will almost certainly be left behind as the market roars ahead.

The transformation over the last decade of the Online Search marketplace clearly illustrates the potential for marketplace disruption. Most of the early brand leaders in online search – e.g., Lycos, Excite, Alta Vista, and HotBot – have all but disappeared, while the relative newcomer Google has seized position of dominant brand in the marketplace.

The competition in GIS/GPS and its expansion into broader consumer markets also has spill-over implications for more specialized arenas. For example, the availability of Google Earth as an easy-to-access and freely available resource already has re-shaped user expectations regarding the ease with which they can access and work with the more technical and sophisticated analytical GIS tools.

Look for GPS marketplace developments to similarly re-shape general expectations about GIS and to re-shape the public's awareness and sense of the "cognitive topography."

*Leo J. Shapiro and Associates will be publishing a report with a more detailed analysis and examination of the survey findings, key issues, and related trends in the GIS/GPS marketplace in mid-November. You can request to receive a PDF copy of the GIS/GPS report by sending an e-mail request to [gps@ljs.com](mailto:gps@ljs.com).*