

The Trust Factor

Digital is convenient, but people still want the reassurance of paper documents they can hold in their own two hands

Moore's Law—the theory that computer processing power doubles every 18 months—is an indicator of the headlong speed at which information technology has evolved over the last few decades. But for all technology's pursuit of greater productivity, its end-users remain the same: ordinary people with ordinary human needs. This explains why the most popular hi-tech devices are reliable, easy to deal with and respectful of your idiosyncrasies—precisely the sort of characteristics you would look for in a friend.

When PCs started taking over the workplace in the 1990s, there was much ballyhoo about the coming of the "paperless office", where complete digitization would render printed documents unnecessary. But ten years on, paper remains stubbornly with us. A 2003 survey cast some light on why this might be so. Asked if they would discard the paper version of a document of which they already had a digital version, 86% of respondents replied that they would hang on to the paper document regardless. And who were these digital unbelievers? Knowledge workers in tech-savvy Silicon Valley.

Papering over the credibility gap

The survey respondents had no trouble coming up with arguments in favour of old-fashioned printed documents. Paper, they argued, is reassuringly tangible; it can be accessed directly without any electricity-dependent reading device; and while digital data is fluid and can be tampered with, erased or hacked, the content of a paper document is fixed. Ironically, it was the very speed of change that struck them as digital technology's greatest weakness: while we can still read books that were printed in the 15th century, the same cannot be said for file formats and applications from the late 20th century, many of which are already obsolete.

"It's a case of 'seeing is believing'," explains Dr. Peter Hart, the organizer of the survey and president of Ricoh Innovations, Inc., in Menlo Park, California. "Think of the role played by the printed confirmation slip you get when you withdraw money from an ATM. People simply trust documents printed on paper more

than they trust electronic documents."

Best of both worlds

Tokyo-based Ricoh, a global leader in office solutions, founded Ricoh Innovations, Inc. (RII) as a research subsidiary in 1997 to tap into Silicon Valley's unique culture of innovation and entrepreneurship. Finding solutions that combine the trustworthiness and familiarity of paper with the convenience of digital documents is one of RII's key goals.

"Video Paper" is one such hybrid solution. On the plus side, digital documents are easy to edit and transmit, but when it comes to skimming and adding annotations, paper documents are far easier to deal with. RII's invention of Video Paper creates a printable index of a video in an easy-to-skim format. This means you can scan the content in less time than fast-forwarding the actual video would take and then jump directly to the segment you want to see.

A similar rationale lies behind RII's experimental presentation-recording technology. We've all sat through presentations, listening to the speaker and taking notes on the paper handout only to end up with a record that proves itself frustratingly patchy on revisiting. To bridge the recall gap, RII has devised a method of linking a recording of the live presentation to the notes you took on the paper handout to provide a complete record of the event and your real-time reactions to it.

Trust in the future

Of course, finding the middle ground between the worlds of paper and digital is not all that Hart and his team do in the way of innovation. With its work on various image compression formats including JPEG2000, RII developed highly cost-effective image compression technology that has led directly to better price-performance of Ricoh products from small digital cameras to top-of-the-line digital multifunction printers. One group of RII researchers even devised a way to speed up Ricoh's telephone-based customer service by creating a unique Help Desk support system named FIXIT. The system provides the operators with the right questions to ask customers, figures out



Dr. Peter E. Hart, Chairman and President of Ricoh Innovations, Inc. in California

what problems they are likely to be confronting, and scours a database to pull out any necessary technical information.

Hart himself has no doubt that RII's 50 employees make a significant contribution to the overall performance of the 75,000-strong Ricoh Group. "Our track record shows how much a small, intellectually entrepreneurial team can accomplish when it's encouraged to operate independently within a strong global corporation," he observes.

These days digital technology is encroaching into ever more sensitive areas of our lives. In fields like government services and healthcare, demand for hybrid solutions that make digital systems trustworthy and accountable through printed confirmation can only grow. And as we have seen, systems combining the functionality of digital with the trust factor of paper are RII's stock-in-trade. "In the future, trust will not just be an important issue per se," concludes Hart. "It will be a great value opportunity for Ricoh."

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