‘Invent Wisely’
Is New Mantra
At Sober H-P

By Pui-Wing Tam

WHEN SHE ARRIVED at Hewlett-Packard Co. in 1999, Chief Executive Carly Fiorina exhorted workers with the company's venerable slogan, "Invent." But the fate of at least one invention shows the difficult trade-offs the big computer maker faces as it tries to cut a middle course in a fiercely competitive market.

Five years or so ago, H-P researchers conceived of a way to boost data-storage capacity for low-power digital devices such as cellphones and cameras, by using electron beams to change the charge of individual atoms. After making some technical breakthroughs in the technology, known as atomic-resolution storage, H-P scaled up the research project.

But H-P suddenly canceled the effort in mid-2003, leaving about 40 researchers in the lurch. Eventually the majority were reassigned, but about a half-dozen ended up leaving the Palo Alto, Calif., technology giant.

"We had made tremendous technical progress during the project, and we always want to be working on cutting-edge things," says Dick Lampman, who heads up H-P Labs. "But we also need to be working on things that make sense." The project simply lost its urgency, as other providers' storage technologies progressed faster than H-P had anticipated.

The project's end underscores the pressures on technology vendors in a market with many rivals but only moderate growth. H-P, whose share price tumbled last week along with many other tech stocks on its report of disappointing quarterly earnings and a warning of a weak quarter ahead, is in a particularly difficult position.

H-P is still trying to deliver the growth promised from its $19 billion merger with Compaq Computer Corp. in 2002. Meanwhile, it is selling personal computers in competition with commodity suppliers who spend little on basic research, such as Dell Inc., of Round Rock, Texas. At the same time, it also must keep up with International Business Machines Corp., whose products in fields such as data storage and semiconductor manufacturing continue to push the state of the art.

Determined to set a middle course, H-P has been moving away from invention for its own sake and focusing its research-and-development spending on projects that promise faster profits. The push to target innovation springs from an increasingly powerful division within H-P dubbed the Office of Strategy and Technology, which is aiming to be the company's central "innovation brokerage."

Under chief technology officer Shane Robison, a former Compaq executive who has the ear of Ms. Fiorina, the strategy group is taking steps to focus invention, including creating a central pipeline to take in innovative proposals from smaller companies that may want to collaborate with H-P. The group also has set up a hotline to which employees can phone in ideas. "Invention only matters if you focus on the right thing," says Mr. Robison. "It doesn't matter if it doesn't help our business."

Mr. Robison's group recently completed an extensive audit of H-P's $8.6 billion R&D budget to identify projects to kill and projects to keep. It has terminated research into components, such as microprocessor chips, and has changed the makeup of its labs, getting rid of many basic-research experts and hiring more software specialists, among others.

H-P has narrowed and redirected research efforts into fields such as security, management software and digital entertainment, where it has visions of becoming an "end-to-end" supplier of not only hardware and software used in the studio but also consumer electronics. The strategy and technology office also is adding new incentives, including boosting the pay and promotion structure for technologists and asking them to meet corporate customers more frequently in order to tailor products for them.

To some extent, H-P is borrowing from IBM's playbook. In the late 1990s, under then-CEO Louis V. Gerstner Jr., IBM too cut basic-research spend.
H-P Mantra: ‘Invent Wisely’

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ing and focused on projects with nearer-
term potential. IBM’s scientists, though, still do basic exploration in
fields such as magnetism, chemistry
and quantum theory.

Such efforts to refocus on shorter-
term goals often raise criticisms. Lori
Rosenkopf, associate professor of man-
agement at the University of Pennsylva-
nia’s Wharton School in Philadelphia,
says that when companies direct innova-
tion too much, they risk squelching the
most explosive ideas. “The more
you build structures, the more people may feel forced to
follow the straight and narrow,” she
says. “Companies still need to leave
some slack for exploration.”

Adds John Seely Brown, the former
director and chief scientist at Xerox
Corp.’s Palo Alto Research Center, “Com-
panies have to define innovative spaces
to go after, but you don’t want to define
those spaces too tightly.”

At H-P, Mr. Robison’s view is that
with the tech landscape changing so fast,
innovation has to be planned in coordi-
nation with nearer-term business goals.
H-P, in fact, has been hurt when it has
placed big bets on future technologies
that failed to live up to their promise.

One example is Itanium, a microproces-
sor developed by H-P and Intel Corp. Origin-
ally conceived as an engine for high-
volume computers, the chip took more than a
decade to refine and was soon relegated to
high-end applications. And as H-P has
urged current customers of its older sys-
tems to upgrade to central computer serv-
ers based on Itanium, some have taken the
opportunity to move to competing products.

Mr. Robison’s team has different pri-
orities. Earlier this year, coffee giant
Starbucks Corp. unveiled a renovated pro-
totype store in Santa Monica, Calif.,
equipped with H-P tablet computers. The
PCs are connected to an H-P server in
the back of the store. Using the tablets,
consumers can scroll through a list of
digital songs stored on the server, pick
tunes they like and then instantly burn
them onto a compact disc. Still using the
tablet, they can design art for the CD
cover and print it out on a H-P printer—
all for as little as $6.99.

The idea is the result of collaboration
between Mr. Robison’s team and Star-
bucks’s entertainment division, says
Brady Brewer, group manager for music
and entertainment at Starbucks. Since
the music-enhanced store opened in mid-
March, customer traffic there has in-
creased, potentially providing Starbucks
with an additional revenue stream. Mr.
Brewer says. Starbucks plans to equip
several more stores with CD-burning
technologies later this year.

Still, analysts note it is likely to be
years before such inventions make signif-
ificant contributions to H-P’s revenue.
Meanwhile, R&D spending remains
tight. After H-P and Compaq were com-
bined in 2002, the resulting company’s
R&D spending amounted to $3.4 billion,
less than the combined total of H-P’s $2.8
billion in R&D spending and Compaq’s
$1.5 billion. Since 2002, annual spending
has hovered at around $3.7 billion.

H-P remains convinced that its R&D
war chest is enough to shore up its ailing
server and storage-system product lines
that hurt its results for the quarter that
ended July 31. The focus now is on soft-
ware: H-P researchers are developing
programs to help manage many different
pieces of hardware as the equivalent of a
single system, saving on labor costs.

But bureaucracy remains a hurdle.
Last year, H-P procurement manager
Venu Nagali submitted to the strategy and
technology office a paper about a risk-as-
sessment software system that would
quantify risks for corporate purchasers ac-
quiring components. The paper won him
a free trip to an H-P-sponsored internal con-
ference on innovation, where he presented
the idea to H-P techies and executives.

The result? His system was adopted
throughout the company for its own inter-
nal purchases. But more than a year
later, Mr. Nagali’s product still isn’t any-
where near hitting the external market,
even though a business plan has been in
the works for months. “We’re shooting
for next year,” Mr. Nagali says.