Thriving in an Increasingly Digital Ecosystem

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BY PETER WEILL AND STEPHANIE L. WOERNER

THE BUSINESS WORLD is rapidly digitizing, breaking down industry barriers and creating new opportunities while destroying long-successful business models. We call this process digital disruption, and although sweeping technology-enabled change often takes longer than we expect, history shows that the impact of such change can be greater than we ever imagined. Think steam engines, cars, airplanes, TVs, telephones and, most recently, mobile phones and e-books. With e-books, the market has been slow to develop. Traditionalists said you wouldn't be able to replace the experience of a paper book. But e-books are gaining traction — they are cheaper than paper books, faster to acquire and searchable. Although the margins on them are thinner than the margins on traditional books, the market is growing. In 2014, 28% of American adults read an e-book, up from 17% in 2011.[1]

Given the amount of turmoil digital disruption is causing, it's time for companies to evaluate these threats and opportunities and start creating new business options for the future — the more-connected future of digital ecosystems. Board members at large companies agree. In recent research

? THE LEADING QUESTION
How should companies prepare for digital disruption of their businesses?

FINDINGS

▶ Use digital techniques to know more about your end consumers and help solve their life event needs.

▶ Companies that operate strictly as suppliers will be under growing pressure.

▶ Consider developing a digital ecosystem and partnering with others, even competitors.

by the MIT Center for Information Systems Research, board members estimated that 32% of their company's revenue would be under threat from digital disruption in the next five years; 60% of board members felt their boards should spend significantly more time on this issue next year.[2] Among the disrupters board members worried about the most were Uber (disrupting taxis); Airbnb (disrupting hotels); Apple Pay, Kabbage, Venmo and others (disrupting banks); and Amazon (disrupting booksellers and retailers of many other products).

On the other hand, increasing digitization also offers opportunities. Companies can leverage strong customer relationships and increase cross-selling opportunities. This article presents a framework, supported by examples and financial performance impacts, for helping managers to think about their competitive environments in the digital era. (See "About the Research.") We had an important insight in the course of our research: that in this period of digital disruption, businesses focused narrowly on value chains were at a disadvantage; they needed to think more broadly about their business ecosystems. Indeed, we found that companies that had 50% or more of their revenues from digital ecosystems and understood their end customers better than their average competitor had

32% higher revenue growth and 27% higher profit margins than their industry averages.

To better understand digital disruption, we studied where companies intended to move in the next five to seven years, on the principle that "the future is already here — it's just not evenly distributed."[3] Based on this view, we decided to observe leading companies that were embarking on one or more new digital initiatives to see what works. In effect, the companies were buying strategic options for the next-generation enterprise — in other words, making investments now that can be exercised in the future. We began by asking senior executives to describe their enterprises' most important transformation initiatives. We heard about a wide variety of initiatives, but generally companies were seeking to transform in two dimensions: to know more about their end customers, and to operate in an increasingly digital ecosystem.

Today, most companies don't think of themselves as operating in an ecosystem but instead as controlling or participating in a more linear value chain.[4] In many ways, Wal-Mart Stores Inc.'s primary business model exemplifies this approach. Wal-Mart knows a lot about its products: where they come from, where they are in the store and when they are sold. However, it doesn't always know who its customers are and why they are buying what they are buying. But

ABOUT THE RESEARCH

We began this research in March 2012 in a series of virtual roundtables with senior executives from 13 large corporations across a variety of industries. We then followed up with an in-person roundtable with executives from 17 companies. We posed the following: "Describe a breakthrough organizational change enabled by digitization where your company has significantly changed the way you operate with early indications of good results." Participants described 77 initiatives, which we classified by types of transformation. We found many of the companies were seeking to transform on two dimensions: to know more about their end customers, and to operate in an increasingly digital ecosystem where they become a destination to solve a customer's life or business need with products and services from their company, from complementors and sometimes from competitors. These two dimensions became the axes of the 2×2 framework with four business models: supplier, omnichannel, ecosystem driver and modular producer.

To understand best practices and the impact of these business models on financial performance, we surveyed two groups of senior executives: clients of Gartner Inc. and companies associated with the MIT Sloan School of Management's Center for Information Systems Research. We asked participants to rate a variety of organization practices and performance measures and to describe a significant breakthrough initiative; we received an additional 67 descriptions (for a total of 144).

To place companies on the 2×2, we used (1) their knowledge of their end consumer (we asked seven questions, including "To what extent does your enterprise know the identity of the most important end consumers of your products or services?"); and (2) the percentage of revenues from ecosystem activities. Companies above the horizontal midpoint on the 2×2 had more complete customer knowledge and scored at least 80% on at least six of the seven questions about customer knowledge. Companies to the right of the vertical midpoint

line had 50% or more of their revenues from ecosystem activities.

To identify top performers, we collected self-reported company data on net margins and revenue growth. To check the accuracy of the self-reported data, we added actual 2013 financial performance from Onesource.com (now Avention.com). Self-reported net margin/growth correlated significantly with actual net margin/growth. Financial measures were then industry adjusted. Two important measures for future performance — customer experience and time to market — were assessed relative to competitors. All performance measures were transformed to a 0-100% scale. The differences across the four quadrants in the 2×2 were statistically significant. We also tested a series of hypotheses to understand best practices for each of the types of businesses. Finally, we did an exemplar case study for each quadrant (using P&G as the supplier, Woolworths as the omnichannel business, PayPal as the modular producer and Aetna as the ecosystem driver).
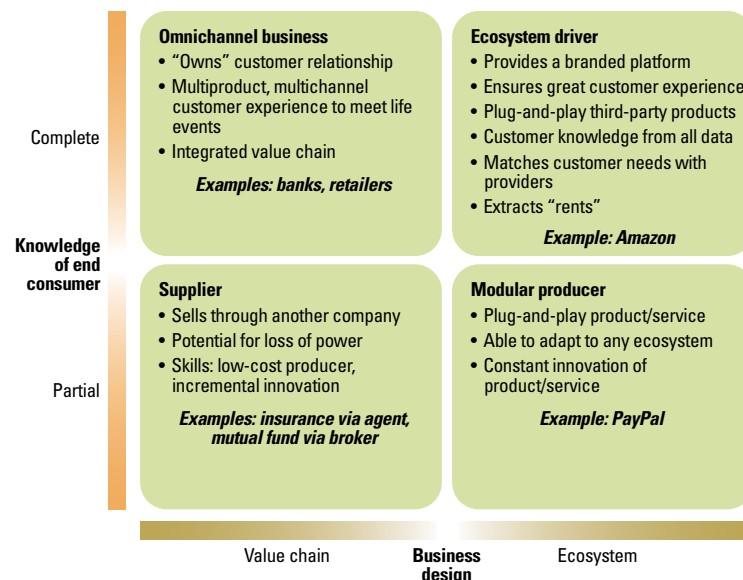
digitization enables consumers and companies to seek out a wider array of benefits. The ecosystem for Amazon.com Inc., for example, offers greater customer choice and enables faster innovation. The enhanced consumer value comes from having different vendors selling similar (or even identical) products — often at different prices or service levels — and fast feedback that allows vendors to improve their products and services. Consumers get a one-stop Amazon-managed experience with greater choice and with more information about prices and quality. Amazon gets to see the data on all of the activity in its ecosystem, enabling fine-tuning and identification of new opportunities while it extracts rents from the ecosystem.

Do you engage your customers in episodic, disconnected transactions, the way Wal-Mart and most other physical retailers have done, without always knowing who the consumers are, what they have previously purchased or from whom? Or are your interactions with customers (whether individual consumers or businesses) more like Amazon's: continuous, collaborative and informed by extensive knowledge of their purchase and search habits?

Deep knowledge of your end customers includes their names and addresses, demographics, IP addresses, purchase histories with your company and with other companies, and most importantly, their life events (such as upcoming weddings or births or, for businesses, planned mergers or expansions). Consider the Commonwealth Bank of Australia (CBA), headquartered in Sydney. When CBA's managers thought about how to grow their mortgage business, they realized that the customer's goal wasn't to *get a mortgage* — it was to *buy a house*. So CBA developed a smartphone app that helps customers achieve that goal. Users can point their phone at houses they are interested in to review their sale price history as well as similar information about homes nearby. Users of the app thus become better informed about prices in their target areas — and a hot source of mortgage leads for CBA. Historically, those who get mortgages become long-term bank customers — the best kind. Using the app, consumers made more than 1.2 million property searches in the first six months after deployment, and CBA estimated the app's return on investment to be 109%.[5]

FOUR BUSINESS MODELS FOR THE DIGITAL ERA

In selecting the right business model, business leaders have four distinct options (alone or in combination), with associated capabilities and relationships. Executives need to determine (1) the extent to which they want to control the value chain, or drive or be part of an ecosystem that delivers on the end customer's total needs; and (2) the extent to which they know about their end customer's goals.

Omnichannel business
- "Owns" customer relationship
- Multiproduct, multichannel customer experience to meet life events
- Integrated value chain

Examples: banks, retailers

Ecosystem driver
- Provides a branded platform
- Ensures great customer experience
- Plug-and-play third-party products
- Customer knowledge from all data
- Matches customer needs with providers
- Extracts "rents"

Example: Amazon

Supplier
- Sells through another company
- Potential for loss of power
- Skills: low-cost producer, incremental innovation

Examples: insurance via agent, mutual fund via broker

Modular producer
- Plug-and-play product/service
- Able to adapt to any ecosystem
- Constant innovation of product/service

Example: PayPal

Knowledge of end consumer: Complete / Partial

Business design: Value chain — Ecosystem

Options for the Next-Generation Enterprise

The combination of moving from value chains to ecosystems and increasing consumer knowledge provides business leaders with four distinct business models, each with associated capabilities and relationships. First, companies need to determine the extent to which they want to control the value chain or be part of a more complex ecosystem. Second, they need to decide how much they want to invest in knowing their end customers. They can choose to operate as (1) suppliers, (2) omnichannel businesses, (3) ecosystem drivers or (4) modular producers. (See "Four Business Models for the Digital Era.")

The Supplier Model Suppliers have, at best, a partial knowledge of their end consumer, and typically operate in the value chain of another powerful company. Companies that sell insurance via independent agents (for example, Chubb Group), electronic goods through retailers (such as Sony) or mutual funds through brokers (for example, Vanguard) are suppliers. As enterprises continue to digitize and search becomes easier, suppliers are likely to lose

power and be pressured to continually reduce prices, perhaps resulting in further industry consolidation. For example, the Procter & Gamble Company, a prime supplier in many other companies' value chains, has anticipated this potential loss of power and flat growth. To gain more leverage, P&G has recently begun a campaign to learn more about, and connect directly with, its more than 4 billion customers worldwide using a variety of branding, social media, direct-to-consumer connections and data-based approaches, in an effort to move from the supplier model to the omnichannel model. P&G operates more than 40 "business spheres," which are real-time decision support environments worldwide, which company executives use to address particular business challenges (such as how to increase Tide laundry detergent sales in London). The data is collected in planetarium-like display rooms where analysis and debate take place and decisions are made. P&G uses sophisticated cockpits where the impact of decisions can be tracked in real time over the next few weeks and months, allowing managers to change course as needed.

The Omnichannel Model Omnichannel businesses provide customers access to their products across multiple channels, including physical and digital channels, giving them greater choice and a seamless experience. Retailers including Carrefour, Nordstrom and Wal-Mart and banks including Toronto-based CIBC and Bilbao, Spain-based BBVA aspire to be omnichannel businesses controlling an integrated value chain, with a strong claim to "owning" the customer relationship. The challenge is to gain more and more knowledge of the end consumer and his or her goals and to reduce the amount of customer churn. Many companies we talked to mentioned big data analytics, social media, mobile apps and customer experience metrics such as the Net Promoter Score as avenues for increasing their understanding of the end consumer. Some companies have significantly invested in ways to better understand their end customers' life event needs and restructured their organizations and uses of data to reflect these changes.

United Services Automobile Association (USAA), for example, was started in the 1920s to serve the auto insurance needs of U.S. military families. However, over the years, USAA, based in San Antonio, Texas, has expanded its financial service offerings to address the evolving needs of customers as they experience life events such as buying a car, moving, getting married or having a child. Each of these events triggers an integrated package of products designed to meet customer needs. For example, customers buying cars are offered car loans, extended vehicle protection, car insurance, month-by-month maintenance guides and assistance selling their current car.[6] Rethinking the business in terms of life events prompted USAA to make organizational changes; for example, it created a member experience group that sits between the product owners and the customer. USAA's approach has earned high marks from its customers.[7] Of course, many banks and financial services companies use life events to organize their marketing, but they often only put a digital facade over their complex product silos without reorganizing the way USAA did.

The Ecosystem Driver Model Some companies, such as Amazon, Fidelity, Aetna, Apple and Microsoft, establish an ecosystem by creating relationships with other providers that offer complementary (or sometimes competing) services. Ecosystem drivers provide a platform for the participants to conduct business; the platform can be more or less open. For example, Google has a very open platform, while Apple's is more closed. Fidelity's platform offers its own mutual funds but also includes funds from competitors such as Vanguard and products and services from complementors such as personal investment advisors. Like omnichannel businesses, ecosystem drivers use their brand strength to attract participants, ensure a great customer experience and offer one-stop shopping. They aspire to "own" the customer relationship in one domain like financial services by increasing their knowledge of their end consumers. They extract rents from participants in their ecosystem — both consumers and service providers — and rely on brand strength and feedback from consumer ratings and reviews to build their reputation and revenues. An ecosystem needs to be a destination for customers in a specific domain (for example, health care, retail, entertainment, financial services or small business).

Aetna Inc., the $47 billion managed health care company that serves both individuals and employers, is attempting to become a health care destination. In addition to being part of 17 public health exchanges, Aetna aims to be the company consumers turn to for more and more of their health and lifestyle needs. This means moving from being primarily business-to-business (managing companies' health plans) to business-to-business and business-to-consumer (managing companies' health care plans and interacting with consumers directly) and business-to-consumer (selling directly to consumers), while continuing to learn about the lifestyle needs of end customers. Aetna is increasingly focusing on a multiproduct and multiservice customer experience that integrates its own products with those of third parties — for example, wellness and health coaches, and smartphone apps such as iTriage, which lets users check their symptoms, get information on medications and find nearby hospitals.

The Modular Producer Model Modular producers such as PayPal provide plug-and-play products or services that can adapt to a variety of ecosystems. To survive, modular producers must be among the best in their category. To thrive, they need to continue rolling out new products and services to demonstrate that they are among the best options available and also well priced. After all, they operate in a hypercompetitive environment in which it's often very easy for customers to search for alternative solutions and switch.

PayPal Inc., which had revenues of $7.6 billion in 2014, processed transactions worth $235 billion and had a five-year annual growth rate of 17.2% and operating margin of 23%. Because PayPal is hardware-agnostic, mobile-enabled and cloud-based, it can operate in virtually any ecosystem. About 50% of PayPal's revenue is from outside the United States,

demonstrating how a modular producer must be able to fit into many ecosystems and regulatory environments. One of the fascinating characteristics of modular producers is that while there may be many players (in this case, Apple Pay and Square), past experience indicates that only a few players make significant profits while the others struggle to survive in a commodity business. Also, in contrast to ecosystem drivers, most modular producers don't get to see all the customer data; they are limited to the data from the transactions they process.

Where Companies Are Today

While most companies today are concentrating on developing better products and building their relationships with customers, they are using different models. Among the larger companies we studied (those with more than $1 billion in revenue), we found that 24% were omnichannel, 12% were ecosystem drivers, 46% were suppliers and 18% were modular producers. Interestingly, the smaller companies we studied (with revenues of less than $1 billion) have started increasing their knowledge of their customers and becoming more networked, or they were already that way: 31% of the smaller companies we studied were ecosystem drivers and 36% were omnichannel. Such companies are currently seizing digital disruption opportunities while their larger counterparts are struggling to respond. This shouldn't be surprising. Smaller, younger companies tend to have fewer legacy systems, be less global and be more willing to take a risk with their business models than larger enterprises. They are also more able to collect, analyze and act on the data required to really know their end consumer — data that larger companies also have an abundance of but generally don't exploit as well because of their numerous silos, geographies and systems (and yes, politics) that make it difficult to connect the dots. We found that companies that derive more revenues from

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managing ecosystems and that have better customer knowledge tend to perform better. For example, companies with ecosystem drivers as their dominant model had the highest margins and growth of all four options in the companies we studied. Part of the reason is that these companies are measurably more responsive to their customers' needs and become a destination to sell their own products as well as others to address their customers' life events.

Today, as companies struggle to build ecosystems and learn more about their customers, only a small percentage of the large companies we studied (12%) are ecosystem drivers. Omnichannel companies deliver the equivalent customer experience as ecosystem drivers but are slightly slower to market with new products. As a group, the omnichannel companies we studied were less successful than the modular producers on both revenue growth and margins. Companies operating strictly as suppliers show weaker performance in all four categories.

Understanding the Digital Threat

For senior managers, a critical question is how urgently and aggressively you need to establish options for future success. How serious is the digital threat for your company, and how quickly do you need to establish an ecosystem and develop a deeper understanding of your customers? To help answer these questions, we have developed a simple self-assessment tool. (See "Assess the Digital Threat.")

On the upside, increasing digitization offers opportunities such as the opportunity to leverage a strong customer relationship and increase cross-selling. On the downside, the threats are often real and immediate. Two-thirds of respondents said they were experiencing a high level of threat (threat levels that are 70% and above) from enterprises in other industries that have existing relationships with their customers; with competing products or services, these companies can potentially disrupt their businesses. In addition, one-third of the respondents said that a competitor's alternative digital offering presented a high level of threat to their core business.[8] In cases where the threat is significant, managers should actively be buying strategic options for future business models and developing their ecosystems and increasing customer knowledge. But what does it take to make this move?

We see many companies begin by using digital capabilities to improve their end-customer knowledge: collecting, consolidating and using insights about their customers. They move from providing services directly to the consumer to assembling a web of relationships that provide services. For example, with its Auto Circle program, USAA helps customers find the right car, negotiate the lowest price and even arrange delivery. The average savings for a USAA member in 2014 was $3,485 off the recommended retail price of a new car.[9] USAA is extending the use of third parties to broaden the services it provides customers for other life events such as child care and home remodeling.

Banco Bilbao Vizcaya Argentaria S.A. is becoming a more effective omnichannel business by investing heavily in new-style consultative branches, ATMs and a new digital bank to improve the customer experience — even as it attempts to keep costs low through automation. At the same time, BBVA is experimenting with opening up its core banking system to customers and third parties, such as software vendors, telecommunications companies and retailers, with applications that embed these services. For example, a telecommunications company could develop a peer-to-peer payment offering that uses BBVA's core services for executing payments.

Preparing for the Future

To prepare for the future, companies need to develop new capabilities in two areas. The first area is learning more about their customers:

Use digital capabilities to obtain information about customers' goals and life events. Many companies have customer data stored in separate departments, systems and geographies, but not often enough can they bring it together to act at the "moment of truth" (the moment the customer remembers and talks about) on the customer's mobile device, during a phone call or at a physical outlet.

Amplify the customer voice inside the company. Every company we saw that put a premium on better customer knowledge found a way to amplify the customer's voice inside the company. Amplifying the customer's voice typically involves compelling the widespread use of some kind of customer satisfaction metric, accessing customers'

unvarnished sentiments via social media and using big-data techniques to test and learn.

Emphasize evidence-based decision making. Effectively using more and better knowledge about the customer also requires a change in the decision-making culture. Many companies have relied on gut instinct and management experience for making their key decisions about customer needs. However, in the era of big data, real-time dashboards and many other sources of hard evidence, companies need to create much more of an evidence-based culture. Experience and gut feel still matter for the intangibles, but decisions must be driven by the evidence, not by title or position.

Develop an integrated, multiproduct channel customer experience. Making actual customer needs and goals central to the business model means that companies stop selling products and instead meet the customer's needs in the context of life events. This change requires companies to become multiproduct and multichannel simultaneously. That is no easy feat and often requires significant organizational surgery, as we saw with USAA.

The second area is to become more of an ecosystem. For companies that have learned how to manage value chains, redesigning the business requires a difficult transformation. Here's what is required:

Become the first choice in your space. Being successful requires being the first choice in your space for a significant number of customers. Amazon is the first choice for many customers for retail. Aetna would like to be the first choice for your health care needs. Fidelity would like to be the first choice for your wealth management. We believe that as business designs become more open, with more competition, industries will consolidate. There will be fewer profitable players that are ecosystem drivers and modular producers. Being first choice requires a combination of having a great brand, delivering on the brand's promise, receiving great customer recommendations and delivering world-class execution in meeting customer needs.

Become great at building partnerships. Ecosystem drivers have to find ways to partner with providers of complementary products and services (and probably competitors, too) and then integrate other things customers want, such as payments and delivery. At Fidelity's website, for example,

ASSESS THE DIGITAL THREAT

To understand how digitization is affecting your business, answer the seven questions listed below. Focus your assessment by thinking in terms of one of your best-selling products or services. Add up your answers, and then double the total for your score out of a maximum of 98. The higher your score, the greater the threat you face and the more urgent the need to experiment with new business models.

How does your position compare with other companies in our survey? About 55% of our respondents said their companies had scores of 70 or above — a range in which an enterprise faces significant revenue impact from digital disruption.

Pick your best-selling product or service and rate it using the following questions, on a scale from 0 (low) to 7 (high).

TO WHAT EXTENT IS THIS PRODUCT OR SERVICE …	SCORE
Electronically specifiable and searchable?	
Ordered digitally?	
Delivered digitally?	
Augmented (or can be) with valuable information?	
Threatened by enterprises in other industries that have relationships with your customers — offering competitive services to yours and disrupting your business?	
At risk of being replaced with an alternative digital offering? (For example, books vs. e-books, or classroom education vs. online learning)	
Going to be delivered digitally in five years?	
TOTAL	

customers can use the company's portfolio analysis tools to identify gaps in their portfolios and then purchase a wide array of mutual funds from competitors (including Vanguard, PIMCO and hundreds of other fund companies).

Create service-enabled interfaces that others can use. Success requires taking what makes you great — your core business transactions — and making them easily and securely available throughout your business — and also to your partners. Achieving this is dependent on two things. First, you need to standardize and make your business rules available (for instance, Aetna would describe how it assesses a claim). Second, you need to make the business transactions available as services. For example, both Aetna and BBVA provide the application programming interfaces to their core transactions to both insiders and outsiders to help drive innovation. For Aetna, each API bundle includes additional health content, data and services that can be included in any new product or service offering and speed time to market. For BBVA, learning how to make these business

services available to other parts of its global bank further informs how to offer the services outside the company.

Treat efficiency and compliance as a competence. Success also requires increased digitization of your company's operations, recognizing the inherent potential efficiencies, responsibilities and threats. These include dealing with data privacy issues, cyberthreats, potential service disruption and the need for increasing levels of compliance with governments and other regulators worldwide. Companies that can do all this will make compliance a competence, not a chore, and will strive to be the best in class.

What's Next?

As we consider the future, we see digitization bringing threats and opportunities. However, for existing businesses, the threats seem to loom larger. Take banking, for example. The United States has thousands of banks. As digitization compels banks to transform, we expect to see industry consolidation. Banks that succeed in being local and relevant in their communities will thrive as omnichannel businesses. But many banks will need to become ecosystem drivers, at least for a subset of their customers. If they succeed, they will become the first choice for meeting all of the financial needs for a segment of customers, providing not only their own products but also complementary products and services from others. However, if they don't succeed in becoming the first choice for a large enough group of their customers, the future becomes less rosy. Some banks will be relegated to providing highly regulated, back-end transaction processing (in other words, they will be modular producers), selling commodity services and losing touch with their customers. Their customers will increasingly look to companies such as Apple or Google as the destination to meet their financial services needs. It will be a slow death of a thousand cuts — year by year — as margins decrease.

To avoid this outcome, we suggest that you take the initiative now. Work with a group of colleagues and customers across your respective businesses to assess your business, and then share the results with each other. If you have multiple businesses, repeat this exercise for each of your major products and services. When the threat is serious, we recommend

reviewing efforts to buy strategic business options for the future. Are your current efforts sufficient?

As you ponder how a digital future will change your business, it's worth remembering the words of computer visionary Alan Kay: "The best way to predict the future is to invent it."[10]

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7. Net Promoter Score (NPS) = percentage of customers who are promoters minus the percentage of customers who are detractors. Scores range from -100 to +100. In 2014, USAA received an NPS of 81 (out of 100) compared with an industry average of 34. See "Satmetrix 2014 U.S. Consumer Study," www.satmetrix.com.

8. This is a big issue that universities are facing with online education.

9. "USAA Auto Circle," www.usaa.com.

10. In comments at a 1971 meeting of Xerox and the Palo Alto Research Center, as documented at http://web.archive.org/web/*/http://smalltalk.org/alankay.html.