



Unintended Consequences

by Craig D. Hafer, President

In 1968, a Southern-born engineer named Don Wetzel was waiting in line at a Dallas bank when he had an idea: to create a machine that could automatically dispense cash. Instead of waiting in line and being limited to a bank's hours, the machine would allow people to withdraw money from their accounts 24 hours a day. His idea was revolutionary.

At the time, Wetzel was an executive at Docutel, a Dallas-based company that produced automated baggage handling equipment. Previously, he had been an engineer at IBM and probably knew of existing technology where a machine could automatically count and dispense money, as it was already used in vending and money-counting machines. The problem was how to create a way for a machine to identify people and determine how much money it could, or could not, disburse for a given transaction. The answer came in the form of a plastic card with ironed-on magnetic tape that the machine could read. The magnetic strip was similar to those used in cassette tapes and contained useful information, such as a person's identity and bank account numbers. After a year of development, Docutel sold the first automated teller machine, or ATM, to New York's Chemical Bank in 1969.

Throughout the 1970's, most ATM networks were regional. It was not until 1982, when VISA acquired ownership in the regional Plus network, that a national network began to form. Still, at the heart of every system was the card with the important magnetic strip and the card reader installed in every machine.

While the ATM network was taking root across America in the 1980's, another major technological advancement was occurring: the Internet. As websites became able to tie into VISA's network, a digital revolution was born.

Such technological revolutions seldom occur without causing major societal changes, however. For investors, technological innovations can create new opportunities, as the companies who embrace these technologies can prosper at the peril of those who do not. With the digital revolution, the transformation in the economy has been swift.

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For society, the full extent of the changes that technology creates is often unanticipated. As the Industrial Revolution of the 1800's mechanized manufacturing, it eventually led to the equal rights movement. The digital revolution that started in the 1980's continues to alter the way people communicate and conduct business. The tradeoff is that in doing so, many individuals forgo the level of privacy they once held.

The willingness of Americans to share their private information during this era can best be seen in the explosive growth of an entirely new industry: social media. At the forefront is Facebook, a company that doesn't charge its users any fees, but instead openly mines the information that its users provide in order to sell it to third parties, who then create tailored marketing campaigns to influence the way those people shop, eat, think and vote. Today, 81% of Americans have a Facebook account. While many users understand that their personal information is being used in some way by Facebook, few realize the extent of the information that they (and many other websites) collect.

One person who did explore how much information Facebook collects is Australian privacy advocate Max Schrems. After requesting to see the information that Facebook collected about him, Schrems received 1,200 pages of data from them, including 300 pages of previously deleted messages and a lot of information that he never even posted. Facebook (and other websites) not only collect the data that people provide on their site, but they also have the ability to access your smartphone or computer. This enables Facebook to

8 ways to protect yourself against Debit Card Fraud

1. Sign up to have debit and credit cards companies send you email or text alerts each time the card is used.
2. Do not store your credit card information online.
3. Let credit and debit card companies know when you are traveling.
4. Stay away from ATM's that appear dirty or in disrepair.
5. Avoid ATM's in suspicious places, or standalone ATM's.
6. Be aware that if your card gets stuck in an ATM and someone offers to help, it could be a scam.
7. Make sure that your debit and credit card companies have your up-to-date information, including your cell phone number.
8. As you key in your PIN, cover the keypad with your hand so that no one with a camera can see you.

gather information about your family and friends, and other information about you.

The extent to which one's personal information is becoming digitized is vast. Each website that you visit is recorded by the search engine that you use, as well as the company whose site you visit. To track your activity, websites often use something called "cookies." A cookie is a file containing information about you that is generated by a website and stored on your computer. Some of this information can be helpful to the user, such as your login information. Other information helps retailers such as Amazon show you advertisements for items that you searched using Google.

What started with placing personal information on a magnetic strip has transformed into collecting it on hard drives and servers across

the world. All of this information has helped companies improve their level of service. However, it has also gained the attention of criminals who steal consumer information to gain access to bank or credit card accounts. By breaking into and installing "skimmers" in machines that accept credit and debit cards, thieves can record all of the magnetic information that is on users' cards. Criminals then remove the skimmer and transfer the data to a cassette tape, which can then be cut into pieces and used to produce fraudulent cards. (Anyone can learn how to do this via a 2-minute YouTube video!) These skimmers have been found at gas stations, ATM machines, and even restaurants. It is estimated that in 2015, global credit and debit card fraud resulted in \$21.8 billion in losses to the financial industry.

While Americans have embraced the convenience that digital technology has delivered, we must realize that a tradeoff exists, and take a greater role in protecting our personal information. There are many things that one can do to protect themselves. For example, most credit and debit card companies have the ability to text or email a customer each time their card is used. In addition, many magnetic cards have been converted to ones with chip technology. Another idea is to use only credit cards for online purchases or to have a debit card which is tied to a secondary bank account, in order to protect bank account balances. Most of all, consumers must be diligent in protecting their privacy. Please contact us if you would like to learn more about how you can protect yourself. The first step is in realizing the unintended consequences of the digital revolution. 🌟