**Chapter 1**

**Internet and Mobile Marketing in the Digital Ecosystem**

**Learning Objectives**

* Briefly describe how the internet originated and what makes it unique as a communications and transactions medium.
* Identify waves of change from both a business and a technology perspective.
* Explain how the mobile web has affected the digital ecosystem.
* Explain what the IoT is and some of its potential effects on consumers and businesses.
* Discuss the implications of disruptive technologies including AR/VR, AI and cloud computing.
* Identify some of the sites where up-to-date digital statistics can be found.
* Discuss the concepts of digital disruption and digital transformation.
* Understand the generic marketing objectives that form the basis for digital marketing strategies.
* Explain the nature of strategy for digital transformation.
* Describe what is meant by customer experience and why it is the focus of digital transformation.

**Chapter Perspective**

The focus of this introductory chapter is squarely on the disruptive change caused by the digital environment and the corresponding digital transformation that businesses of all kinds must undergo. A detailed history of the internet has given way to the powerful summary provided by Steve Case’s Waves of Change concept, which shows that we are moving into an Internet of Everything (or the Internet of Things, if you will) and makes it easy to understand that change is an enduring characteristic of the internet.

Digital disruption is all around us and there is no automatic resolution for any business. Adapting to and thriving in the digital ecosystem requires a strategic process of digital transformation. Few firms have achieved digital maturity.

There are number of technologies that are at the heart of the transformation at present. Artificial Intelligence is not new, but it is just coming into its own as a driver of many business innovations. Virtual Reality, Augmented Reality and Mixed Reality applications are emerging in many products and services.

In the midst of all the technological innovation the internet continues its rapid growth. That growth, however, is now driven almost entirely by mobile. It uses platforms that are different from the infrastructure of the traditional internet, making this a digital environment that encompasses both mobile and the internet. A brief profile of digital users and usage around the world shows the magnitude and direction of growth. Business use of digital is guided by the core marketing processes, which will appear in a number of different chapters to remind students of their strategic importance. The picture that emerges is that businesses use digital in all their activities and often struggle to keep up with developments.

All users have an abundance of choices in what they consume and how they consume it. Choice is never far away from the digital user. As a result, the concept of consumer experience has assumed a dominant role in successful marketing of all kinds. Technology is important, but it is not the cornerstone of successful consumer experience. There are many dimensions of CX and they will be emphasized throughout the book.

Reminder: The notes on some of the PPT slides have suggestions and resources for teaching that particular item of information. Be sure you are checking them for specific information.

**How the Internet Has Evolved**

The goal of this section is to downplay the early development of the web while providing some context for students who may be too young to remember them. Case’s Waves of Change covers the evolution without drowning the reader in details. Figure 1.1 has many good links. Interactive Exercise 6.1 has an interactive timeline that you might find useful at this point. <http://www.huffingtonpost.com/entry/explore-the-history-of-the-internet-of-things-with-this-cool-timeline_us_55a3bff9e4b0a47ac15ccc69>

The technical perspective on internet change that is shown alongside Case’s business perspective in Figure 1.2 emphasizes that we are well into the mobile phase and entering one in which Virtual, Augmented and Mixed Reality, along with what is commonly called Artificial Intelligence, are signaling change in everything from games to advertising. VR, AR and MR are carefully defined in the text and on the slides and AI will be discussed later in the chapter.

The two perspectives agree that the IoT looms large in the near-term future. Another concept summarizes the elements of the IoT—sensors that collect data, connectivity between users and vast resources stored in the cloud and the people and processes that benefit from IoT applications. Many examples will be cited throughout the book.

**Digital Disruption and Digital Transformation**

It almost seems that this could be the subtitle of this edition of the text; so much has changed and the change is so pervasive. Both topics go far beyond marketing with digital disruption affecting our lives and our jobs and digital transformation affecting all organizations and all aspects of business—not just marketing. Students should understand that this section sets the theme for the entire book.

Figure 1.5 is from an MIT study of digital transformation in large enterprises in 15 countries. Nine elements were grouped into three categories:

* Customer Experience is comprised of Customer Understanding, Top Line Growth and Customer Touchpoints. Customer experience is another key theme throughout this book.
* Business Models (Chapter 3) are comprised of Digitally-Modified Businesses, New Digital Businesses (in Chapter 3 we add Mobile First-Mobile Only as important marketing considerations) and Digital Globalization.

Both of these categories represent important elements of this book. Less important for our purposes are:

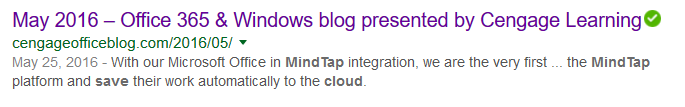
* Operational Process comprised of Process Digitation, Worker Enablement and Performance Management. Not only are these business-wide topics, not marketing only, we have kept the focus in the 4th edition on strategy not, for the most part, on marketing operations.
* The *capabilities* required are Unified Data and Processes, Analytical Capability, Business and IT integration and Sales Team Delivery. The importance of data and analytics are stressed throughout the chapters and explicitly covered in Chapters 4 and 18. It is not too soon to start pointing out the nature of the job opportunities in digital marketing and data management and analytics are two of the important ones

Digital transformation is a tall order; how does a business do it? Figure 1.6 shows six stages in the transformation. The graphic comes from Brian Solis at the Altimeter Group, so it is a marketing perspective on a business strategy topic.

Transformation is a challenging task. If you want to present it as an opportunity, try [this video](https://www.youtube.com/watch?v=JqpgREkd1ss) from EY Global, the former Ernst and Young.

**Artificial Intelligence and Cloud Computing—Salesforce and North Face**

These are two of the disruptive technologies that are having major impact on marketing, both mentioned earlier in the chapter. This section defines AI and points out that it is not a new technology. AI, however, has gained a huge amount of momentum recently. Cloud computing, basically storing data and doing work on remote servers, is more recent and is taking over in most computing applications. To make the cloud (which is a silly and confusing term, but it has stuck) relevant to students, there is an interactive slide nudging them to realize that they, too, use the cloud. For example, the authors use Dropbox to store and share content that needs to be available to both of them. I’m sure the MindTap ebook that students are using is stored in and accessible from the cloud. Cengage seems to use a number of cloud platforms to provide different content and services; I have seen a ‘Blackboard Cloud’ mentioned, for example. This partnership with Microsoft is a good example



The [blog post](http://cengageofficeblog.com/2016/05/) doesn’t mention the cloud, but it is pretty obvious.

Salesforce will be mentioned in a number of different chapters; it is simply good at many things. It was an early example of Software as a Service (SaaS) which is another term for storing and providing via a cloud. It considers itself a ‘cloud company;’ its logo says it all.



The Einstein product was introduced as scheduled, and there have been frequent rollouts of the technology to various Salesforce products. The big news on the day I am writing this is that Einstein in the Sales Cloud can now automatically [generate models for marketers](https://techcrunch.com/2017/03/07/salesforce-einstein-ai-can-generate-models-automatically/). And the developments will continue, I’m sure.

Salesforce is relevant to students’ marketing careers. A nice warm jacket is relevant to their personal comfort. Hence Interactive Exercise 1.3, which allows customers to build their own jacket. Customized clothing is not new, of course, but this application adds much knowledge to the process. I’ve often used one of the customization options from other clothing etailers in class, letting students select the option at each step. You may come out with a pretty funny-looking jacket that way, but that’s ok. You might want to try that with the North Face product or you might assign students to create their own jacket and then discuss their experience as suggested on the slide for IE 1.3.

**A Profile of Digital Users**

This section is intended to put the strategy background into the context of the explosive growth of the web. It is a story that is ongoing and these are the aspects of the story that are relevant to digital marketing.

* The number of people with access to the web is growing rapidly, with most of the new users accessing it through mobile devices. Large opportunities for growth still exist in developing countries. Social media is also an important element of growth and mobile is important in that growth also.
* Previous users will recall that there used to be extensive discussion of demographic differences in internet use. No more. In developed countries essentially everyone who wants to be connected is connected. The differences are in the details—who uses what, when and for what purposes. That is the sort of detail that is vital to marketers. As one goes through the consumer use data it is worth reminding students that all this data is still at a very high level; brand marketers generally have to dig much deeper to uncover the best strategies for reaching their target audiences.
* The section on business use begins with the 4 core marketing strategies. Again, previous users will recall that these 4 strategies were at the heart of the Internet Marketing Paradigm that was featured in the first 3 editions. That had outgrown its usefulness, especially in terms of making mobile a full player in the digital environment, In the B2B sector the growth of digital in marketing communications, advertising and ecommerce is also rapid. It, however, suffers from the difficulty of precisely calculating the ROI of digital marketing investment. Students should remember that the same is true of traditional marketing. It is no surprise to anyone that the web has spawned a host of large and powerful companies. The degree to which many of the top 20 are Chinese may, however, be a surprise. If you want top global sites, not just top ecommerce companies, [try Alexa](http://www.alexa.com/topsites). This list of [largest Indian sites](http://www.walkthroughindia.com/hot-trends/top-20-indias-most-popular-and-most-visited-websites/) is quite different from the Alexa list of top sites in India which starts with—surprise—Google, YouTube and Facebook!

**Drivers of Digital Transformation**

What is required for the digital transformations of a business? Deloitte says that a digital transformation strategy requires attention to the tasks that must be performed, a risk-tolerant culture, the continuous replenishment of people who blend tech and soft skills

The CVS case history illustrates most of these requirements in a context that is familiar to many students (how many have used a Minute Clinic, I wonder?). The case history points out that it is already a process of several years and it is ongoing. Since this chapter was written, CVS has introduced [a new app](http://www.mobilemarketer.com/ex/mobilemarketer/cms/news/software-technology/24582.html) to warn travelers when they are experiencing conditions that might bring on a migraine headache—and it comes with a set of ear plugs!

And so it goes . . .We will keep you up to date on many developments in concepts and business examples that your students may find interesting and useful. Please check our Author Blogs on the Instructor Resources page frequently.

**Discussion Questions**

1. **The origins of the internet are unusual in the history of commercial media. What makes it unusual and what qualities does that impart to the medium?**

The internet began as a national defense initiative and government ownership of the network prevented commercial activity until 1991. Another interesting aspect of internet history is the degree to which academic researchers across the country, and soon the world, became involved in various developments. That may have been responsible for the early “anything goes” culture of the internet. Students should realize that communications has always been the chief activity on the web, even back when it was mostly scientists talking to one another.

The introduction of the first graphical browser was a watershed event, making the internet accessible to the average computer user. The word “democratization” is often used to describe widespread adoption of the internet. That brings, among other things, pressure for more control over content that some find offensive. That is one of the continuing tensions of the internet.

If you want your students to understand the environment of the early internet, it survives in the *Cluetrain Manifesto.* The manifesto and now the entire text of the book are available at <http://www.cluetrain.com>. There is also an interesting timeline in Interactive Exercise 6.1.

1. **What are the waves of change in the business environment that began with the internet?**

The way Steve Case sees it from a business perspective is:

* First, the construction of the network itself and getting people to use it. It was hard to use in the beginning and it was mostly scientists who used it. I have read that Bill Gates recognized that the average person was not going to invest the time and energy to learn the necessary JCL to use the early net. I can attest to that. I took one look at Gopher, the early search engine that some of my colleagues were using and said, “No way!” In any event, Gates is said to have been slow on the uptake when the first graphical browser, Netscape, came along. Microsoft had to play catch-up when average computer users began to access the internet.
* Second, Case points to the layer of services and apps that were built for the internet. That is what made the web usable for people like me. Yahoo! was a revelation and it was quickly followed by other portals like Lycos and AOL (see Figure 1.3). Those portals are now either out of existence or have morphed into something else. The best single reason is Google and the ability to search for what we want, not to have a ‘walled garden’ provide it for us.
* Third, Case calls it the Internet of Everything. Any difference between that and the Internet of Things is purely coincidental. But the point is that everything will be connected and that is happening all around us. Encourage students to think about the forms of connectivity they are using and what that means in their lives. An interesting question—is this the beginning of the end for smart phones?

1. **How do waves of change in technology parallel business change? What lies ahead in terms of technology change?**

Notice that the technology perspective is hardware-focused, which is not surprising. It moves from the PC to the internet to mobile. We are still experiencing the mobile wave and the Virtual/Augmented/Mixed Reality wave is upon us. Again, have students seen examples in their daily lives. If they are gamers, definitely. Fitness devices are mentioned a number of places in the book. And [this smart camera](http://www.samsung.com/us/smartcamera/) was announced recently. The beat goes on!

1. **What are some changes in your own life and that of your family that you can reasonably expect from the Internet of Things?**

As the commentary on the previous question suggests, there are many possible ways. Perhaps in the early days adoption of smart devices will be conditional on preferred activities from sports to fitness to photography. General-use devices are already taking hold. Do students drive cars with some connectivity? What do they think of it and do they find it useful? Do they or their families have smart assistants like Amazon’s Echo in their homes? How do they like them? Any annoyances? At present, Amazon is having difficulty with Alexa devices responding to that they interpret as commands but are [really coming from TV](https://motherboard.vice.com/en_us/article/people-are-complaining-that-amazon-echo-is-responding-to-ads-on-tv).

1. **Why is the mobile web a separate entity from the fixed internet? Why is it important that marketers track developments in mobile as well as in the internet?**

The answer to the first part of the question is simply the technology. The internet is fixed because it requires a physical network of wire and servers to function. The mobile web works off cell towers that have antennas and electronic communications devices attached to them. One reason the mobile web has taken off in developing countries is that it is quicker and much cheaper to deploy mobile technology than the cables required to carry internet traffic.

So much of marketing seems to be “follow the eyeballs.” If that’s where customers are, that’s where marketers much be also. Students might want to push it farther—the mobile web is taking over at the expense of the fixed internet. Are there things in your home that used to be wired? I’m very fond of my Wi-Fi home security system and my wireless thermostats and smoke detectors.

1. **What is the meaning of digital disruption? Digital transformation?**

Digital disruption is technology-induced change that changes the way we do things. A classic example is Uber and the local transportation industry.What other examples can students think of? Many others will be given throughout the book.

Digital transformation is the process business (and non-profit organizations and governmental organizations) must undergo to survive the disruption and to thrive in the environment created by it. Figure 1.5 gives 9 requirements for transformation and Figure 1.6 shows the stages of strategic business digital transformation. Figure 1.17 shows necessary elements.

1. **How should businesses go about attaining digital maturity? What is the final outcome state that marks a digitally-mature business?**

Figure 1.6 indicates that business must drop a ‘business as usual’ mentality and begin a process of strategic change that includes small-scale experiments, a more formalized approach based on positive experiments, individual groups recognizing the power of strategic change leading to a designated team charged strategic transformation. This concept ends with a firm becoming agile—innovative and adaptive to the ever-changing environment.

The final stage is a way of saying that there is no end state. The process is ongoing and will continue to be so as long as technology continues to advance.

1. **True/False. Artificial intelligence is a new technology that promises to supplant human beings in all aspects of their daily lives.**

False. AI is not a new technology; the chapter documents the first use of the term at a 1956 computer science conference. Until recently, it has been an esoteric subfield of computer science with few everyday applications.

That has changed in recent years as computing power has continued to increase and the availability of ‘big data’ increased the need for computing routines like pattern recognition. Amazon’s Echo is mentioned in the chapter, as is Salesforce’s Einstein. IBM has been a leading proponent of AI for quite some time. It calls its AI engine Watson, and has a robust explanation of what it does. [This video](https://www.youtube.com/watch?v=_Xcmh1LQB9I) is about 7 minutes long but it is a good explanation. It is interesting that it is no longer featured on the IBM Watson site. The featured content is now about applications, not about the technology itself.

1. **Do consumers as well as businesses have an interest in the topic of cloud computing? Explain why or why not.**

The text lists Microsoft Office, Google Drive, Apple iCloud and the Amazon Cloud Drive as products in the cloud space. Salesforce is the major example of B2B use in this chapter.

Cloud technology is now pervasive and part of many other B2C applications. Consider your own use if you need to prod students to think about theirs. For example, I use Dropbox to share files with colleagues and as a backup for important files. I also use a password manager as a security device. It syncs my passwords between my laptop and smart phone—the only 2 devices I use regularly. I use the free version of Dropbox as do most other consumers, I imagine. I have an inexpensive subscription to the password manager to ensure the sync between devices and give me some other services.

How about games? Many of your students probably use online versions of games. What else? When they start thinking about it they will probably realize that many of their applications store data in the cloud for them, and they don’t even notice. That is part of the attraction of the cloud.

1. **Discuss the role the internet plays in the lives of consumers and businesses. Has it changed the lives of consumers in any meaningful way? Has it changed the way businesses operate in any significant fashion? Can you give examples of the impact of the internet in B2C, B2B, or nonprofit markets?**

In one sense there’s an easy answer to the role and impact of the internet. It has changed, to one degree or another, just about everything we do in our daily lives. Slide 23 emphasizes the changes in media use that affect all of us and there are many more. Do we all check our phones as soon as we get up in the morning?

The same is true of business. Almost no business activities have eluded the impact of digital. Some activities are more susceptible to the influence of digital and some businesses are doing it better than others. Those are two subjects we will explore throughout the book.

Try to get students to look around to see examples of how the digital environment affects them. Are they working will colleagues in more collaborative ways than they did previously? Has a favorite local coffee shop or pizza parlor added digital features? Do students recognize any new digital offerings your school is making available to them? How do they like the ebook?

1. **Technology is at the center of all digital transformation. Why or why not?**

Technology is not necessarily at the center of all transformation. Consider management approaches to important subjects like workforce diversity and employee engagement, for example.

But digital transformation is driven by digital technology. And while there is other transformation going on, both the amount and the impact of digital transformation seems by far the greatest. As such it has a huge impact on our lives.

1. **A business like CVS can point to a pivotal business change that marked it as a digitally-mature company.**

By this time students should have begun to realize that digital transformation is an ongoing process—a journey, not a goal. The text describes a number of developments over time. A new headache app was described earlier. Since the chapter was written CVS has also introduced mobile ordering/curbside pickup service. They have [a good page](https://www.cvs.com/mobile/cvs-express/) for it. They don’t introduce new developments every day—the process takes time and effort. But you could search ‘CVS digital transformation’ to see if there is anything recent. Or follow our Update blog; we’ll try to provide as many of these updates as we can.

**Internet Exercises**

1. **Select an organization (corporate or nonprofit) with which you are somewhat familiar that uses both online and offline channels. Discuss two or three specific examples of how it is taking advantage of digital marketing, especially the mobile web.**

ANS: This is a good discussion exercise and could make a two or three-page written assignment. If you want to focus them on a specific organization for class discussion, perhaps there is a local enterprise that has a robust website—the local newspaper or the school newspaper may prove to be interesting. The American Red Cross and the Association for the Prevention of Cruelty to Animals are two nonprofits that have good websites. The motor vehicle registration site of your state government could also be interesting. Newspapers have to be mobile today to survive. Some non-profits have good mobile sites; some not so much. Many government sites have actually been in the forefront of mobile and motor (and voter?) registration sites may be good examples.

If you are going to do it as an in-class exercise, you may want to assign the students to visit the website before class so they can form their own opinions.

1. **Select three different websites that you will follow for the semester. Each should, however, be a brand site, not a site for a mega-corporation with many different brands (e.g., Ford F150, not Ford Motor Company). Following at least one nonprofit site can add to the learning experience. Submit the list of sites you plan to follow to your instructor.**

**Signing up for free newsletter from the sites you select will help you understand the various elements of their digital strategies. If the company has retail outlets nearby, you should also consider a visit to the retail site, looking for ways in which the firm is integrating marketing activities on and off the web.**

**Examples of what these firms are doing will be useful to you in discussing aspects of chapters to come.**

ANS: I’ve used variations on this semester-long assignment off and on for several years and it works well, both in the classroom and in distance classes. It is relatively easy to police it to ensure that each student has a unique set of sites and, if you feel the need, to keep records to ensure that students do not replicate the same set of sites from one semester to another. I do recommend that the site choices be submitted in writing for formal approval and that they not be changed without specific permission

**Keywords**

**artificial intelligence (AI) -** the ability of a computer to mimic human behaviors.

**augmented reality (AR) -** an enhanced version of reality created by superimposing computer-generated images on top of the user’s view of the real world.

**cloud computing -** using a network of remote servers hosted on the internet, not a local server or computer hard drive, to store data and programs and to process data.

**digital disruption -** change caused by digital technologies that disrupts ways of thinking and acting.

**digital transformation -** the rapid change in business activities and operations caused by digital disruption.

**Internet of Things (IoT) -** network of physical objects embedded with electronics that allow the objects to collect and transfer data.

**mixed reality (MR) -** combining the real and virtual world to produce a new environment in which objects can interact and humans can interact with them.

**Software as a Service (SaaS) -** making software available on a fee for use basis instead of on a license or purchase basis.

**unstructured data -** data that have no predetermined models or organized in a predefined way. Unstructured data is often heavily text but not necessarily all text.

**value proposition -** a description of the customer value delivered to a specific target market.

**virtual reality (VR) -** simulation of a three-dimensional image or environment with which the user can interact by using special equipment.