



# Three Levels of Pull

## Volume Five



*"The Power of Pull* examines the 'how question' —how can we effectively address our most pressing challenges in a rapidly changing and increasingly interdependent world? In *The Power of Pull*, John Hagel, John Seely Brown, and Lang Davison highlight fascinating new ways in which passionate thinking, creative solutions, and committed action can—and will—make it possible for us to seize opportunities and remain in step with change." - [Bill Clinton](#)

*"The Power of Pull* will do for our 21st-century information-age institutional leadership what Peter Drucker's *The Concept of the Corporation* did for industrial-era management. This book begins to create a body of learnable principles that will revolutionize our ability to access and work with knowledge flows." - [Newt Gingrich](#)

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# Three Levels of Pull

Last year, in the midst of a deep recession, we found ourselves troubled by the suspicion that short term circumstances were in fact masking an even more disturbing long-term trend. What if, when the recession ended, the U.S. corporate sector was still performing poorly?

What we found in a subsequent research effort seemed to confirm this troubling hypothesis. The 2009 Deloitte Shift index, which leveraged more than a dozen data sources, four surveys, five pro-

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prietary methodologies and 26 metrics to provide a macroeconomic view of deep, long-term disruptions in the business landscape, showed that return on assets (ROA) for U.S. firms has steadily fallen during over more than four decades to almost one quarter of where it was in 1965, even as labor productivity has continued to rise. Even the highest performing companies are struggling on average to maintain their ROA levels, while losing their leadership positions at an ever-faster rate. By contrast, the companies in the bottom quartile of ROA performance saw their returns decline by 35-fold over the same period.

What underlies this long term decline in U.S. corporate performance? It may be, as we argue in *The Power of Pull* (Basic Books, 2010), that U.S. companies are confronting the limits of an outmoded approach to doing business. We call this approach “push.” Broadly speaking, push describes a method and means of organizing activities and

actions. Push operates on a key assumption—that it is possible to forecast or anticipate demand. And it follows the logic laid out by historians such as the late Alfred Chandler, who wrote classics like *Scale and Scope* and *Strategy and Structure*, logic maintaining that companies exist to exploit the benefits of being big. They exist, in other words, to maximize efficiency at scale.

The logic of scalable efficiency arose in response to the spanking new transportation and communications infrastructures that emerged in the 19th century with the invention of the steamship, the railroad, the telegraph and, soon thereafter, the telephone and the automobile. These infrastructures for the first time enabled large-scale manufacturing facilities serving national markets. As a result, a new type of business enterprise was born, one using the infrastructure and relative stability of the day to get bigger quickly through push marketing and production at scale.

Of course, we no longer live in the 19th century. Today we have a new digital infrastructure—consisting of the institutions, practices, and protocols that together organize and deliver the increasing power of digital technology to business and society. Because its underlying technology components (processing power, storage capability, and bandwidth) continue to evolve at exponential rates, the new digital infrastructure itself shows no signs of stabilizing. Thus the events of our 21st century world are becoming swifter, more turbulent, and harder to predict. The unexpected is becoming commonplace. Probability distributions are increasingly less normal. Power laws are ever more prevalent. We live in an age of uncertainty.

As the world becomes less certain, scalable efficiency is losing its way. Yet our economy is chock-a-block with businesses that exist to maximize efficiency at scale. Businesses presuming predictability in order to push out mass produced

products supported by mass marketing programs. Businesses relying on command and control in a world that's increasingly difficult to command or control. Businesses losing their leadership positions at an ever-faster rate because they continue to push in a world where push no longer works as effectively as it once did.

What we need, rather than a managerial philosophy based on the communications and transportation infrastructures of the 19th century, is one geared to the digital infrastructure of the 21st. We need a new rationale for our biggest private and public sector institutions—to re-imagine them in line with the world around us. Rather than scalable efficiency, we need scalable connectivity, learning, and performance. Rather than push, we need institutions that pull.

### What is pull?

Pull is the ability to draw out people and resources

as needed to address the opportunities and challenges of an uncertain world. Pull gives us unprecedented access to what we need, when we need it, even if we're not quite sure that "it" is. Pull allows us to harness and unleash the forces of attraction, influence, and serendipity. Using pull, we can create the conditions by which individuals, teams, and even institutions can achieve their potential in less time and with more impact than has ever been possible. The power of pull provides a key to how all of us—individually and collectively—can turn challenge and stress into opportunity and reward as digital technology remakes our lives.

Pull is about expanding our awareness of what is possible and evolving new dispositions, mastering new practices, and taking new actions to realize those possibilities. It's about figuring out how to be systematic in how we combine work and life to pursue our passions, how to find others who share our passion but bring different experiences

and perspectives to challenging performance needs, and how to create conditions where we're more likely to happen upon interesting people, resources, and opportunities—even as we contribute the same chances to others. We all pursue some of these techniques—searching, tapping into networks of one kind or another, connecting with people who share our passions—but almost none of us do it systematically or even consciously. And few of us know how powerful these ideas and techniques, properly deployed, have the potential to be.

Pull works at three primary levels, each of which builds on the others. At the most basic level, pull helps us to find and access people and resources when we need them. At a second level, pull is the ability to *attract* people and resources to us that are relevant and valuable, even if we were not even aware before that they existed. Think here of serendipity rather than search. Finally, in a world

of mounting pressure and unforeseen opportunities, we need to cultivate a third level of pull—the ability to pull from within ourselves the insight and performance required to more effectively achieve our potential. We can use pull to learn faster and translate that learning into rapidly improving performance, not just for ourselves, but for the people we connect with—a virtuous cycle that we can participate in.

### The first level of pull: Access

The first and simplest level of pull is all about flexible access—the ability to fluidly find and get to the people and resources when and where we need them. This is considerably different from the notion of “pull” that some readers will associate with lean manufacturing.

Access involves the ability to find, learn about, and connect with resources (people, products, and knowledge) on an as-needed basis to address

unanticipated needs. As the world is remade by digital technology—a process we have termed the Big Shift, this capability becomes increasingly central to our survival, much less our success. As the convergence of digital infrastructures and public-policy regimes supporting economic liberalization lead to intensified competition and growing economic pressure, it becomes increasingly difficult to forecast demand, requiring non-push based approaches to resource mobilization. Rather than pushing resources based on reasonably accurate demand forecasts, we must find ways to access a broader range of resources in shorter periods of time to respond to unanticipated events as disruptions become ever more frequent. From something that was nice to have, access is becoming essential to survival in an increasingly unpredictable world.

### ***Pull platforms***

Access is particularly challenging in the business world, where institutional boundaries have tended

to limit visibility and the ability to connect with needed resources. What we call pull platforms can help us to overcome institutional barriers in the business world as well as to expand our reach in our personal lives.

Pull platforms are designed to flexibly accommodate diverse providers and users of resources. SAP's Developer Network (a collaborative ecosystem consisting of customers, business partners, experts, and independent parties, many of whom are organized in "communities of innovation" that focus on particular performance challenges or opportunities) is one good example. We'll discuss two others in a moment.

These platforms are open-ended and designed to evolve based on the learning and the changing needs of the participants. "Platforms" in the literal sense are tangible foundations; here we are using the term metaphorically to describe frameworks for

orchestrating a set of resources that can be configured quickly and easily to serve a broad range of needs. Think of Travelocity's travel service, or the emergency ward of a hospital, and you will see the contrast with the hardwired push programs. Emergency wards, of course, exist to help only in dire situations. Yet they demonstrate the feasibility and value of pull-oriented approaches in more traditional settings. In the emergency room, the medical personnel make skilled decisions as to the time necessity of their interventions and are ready to pull from and mobilize a wide variety of resources that are on hand to help whoever comes in with a problem.

The contrast between push programs and pull platforms is quite stark. Pull platforms tend to be much more modular in design. Of course, push programs can also be modular, but the modules are specified for the benefit of the provider and usually

tightly integrated. On pull platforms the modules are for the convenience of the participants in the platform. For example, many "open university" initiatives allow students to take courses (which are "modules" in a degree-granting program) online whenever they choose, in different sequences and groupings, giving maximum flexibility to the student. Modules are created to help to make resources and activities more accessible in flexible ways, since the core assumption of pull platforms is that the needs of participants cannot be well anticipated in advance. Pull platforms are designed from the outset to handle exceptions, while push programs treat exceptions as indications of failure. Most companies in fact spend considerable effort trying to eliminate exceptions—such as when an order bounces out of an automated order processing system because of a customer request for unusual financing terms, or for shipment of the order using an unanticipated delivery method.

In pull platforms, the modules are designed to be loosely coupled, with interfaces that help users to understand what the module contains and how it can be accessed. Because of this loosely coupled modular design, pull platforms can accommodate a much larger number of diverse participants. In fact, pull platforms tend to have increasing returns dynamics—the more participants and modules the platform can attract, the more valuable the platform becomes.

In many cases, pull platforms are initially deployed to serve a specific need, but, because of the flexible design, these platforms rapidly evolve in unexpected directions and end up serving a broad range of needs. Instant-messaging networks were initially deployed to help teens and hackers to communicate more rapidly, but they are now actively used by financial traders who want to gain an edge in rapidly moving financial markets. The design of these platforms is emergent, shaped by

the participants themselves as their own needs evolve. This kind of organic growth is very appealing, on the one hand, because it makes the most of a company's initial investment as other participants contribute. It's somewhat scary, on the other hand, for managers who are used to controlling what takes place. Who knows? Perhaps the community will start talking about or even recommending competing products. Yet companies like SAP have found they can influence and shape the direction in which the community goes—so that it creates the most value for all the participants—without over-controlling things.

### ***Pull platforms in action***

SAP isn't the only company making use of pull platforms. Li & Fung operates in a variety of industries, but it got its start in the apparel industry. It was there that the company initially developed an operating model that it is now extending into other industries. In the apparel industry, Li & Fung's

customers are apparel designers in the United States and Europe. It works with these customers to define their needs in terms of apparel production and then configures supply networks that are not just customized for the individual customer, but customized down to the individual item of apparel.

Li & Fung does not perform any of the supply-network operations itself. Instead, it works with more than 10,000 business partners in more than forty countries around the world to ensure that exactly the right capability is deployed to support each item of apparel. For example, the participants required to produce a high-end wool sweater might be quite different from the participants required to produce a low-end wool sweater. Li & Fung has a deep understanding of the capabilities of each of its partners. Its role is to identify the appropriate partners, define and sequence their roles in the supply-network process, and perform quality checks to ensure that each customer is getting

exactly what it needs. Everything else—all raw material sourcing, production activities, and logistics activities—is performed by Li & Fung’s partners.

In effect, Li & Fung has organized a global pull platform for apparel designers. In sharp contrast to traditional supply-network managers, who have focused on limiting the number of supply-network partners and creating tightly integrated operations, Li & Fung is rapidly expanding the range of participants to provide an even broader range of specialized capabilities that can be flexibly “pulled” by individual customers to serve their specific needs.

Another pull platform emerged about ten years ago in the budding digital music player market. This one was organized by PortalPlayer, a company that was founded in 1999 by a group of former National Semiconductor executives. It received very little public attention, but it played a key role in the introduction of Apple’s iPod product line.

The founders of PortalPlayer set out from the beginning to organize a global pull platform to help it design and develop technology to meet very demanding performance specifications, including a small form factor, low power consumption, high audio quality, and low manufacturing cost. PortalPlayer focused on designing the core MP3 decoder and controller chip with related software that made it easy to incorporate technology from a broad range of other companies. This became the centerpiece of PortalPlayer's pull platform.

From the outset, the company was organized as a micromultinational with its own operations based in both San Jose, California, and Hyderabad, India. PortalPlayer invested significant efforts in building a global network of technology companies with complementary capabilities to support MP3 development. These companies included some U.K. technology providers, such as the microprocessor company ARM and Wolfson Microelectronics, a

specialized provider of digital-to-analog conversion technology. From the United States, participants in the PortalPlayer network included Texas Instruments and Linear Technologies, a small company specializing in power-management integrated circuits. From Japan, PortalPlayer recruited Sharp to provide flash memory, Sony for battery technology, and Toshiba for hard-disk-drive technology. In Taiwan, PortalPlayer developed close relationships with both United Microelectronics Corporation (UMC) and Taiwan Semiconductor Manufacturing Company (TSMC) to access silicon foundry capabilities. In effect, PortalPlayer had deployed a pull platform to drive rapid iterations of innovative MP3 designs by accessing and connecting with world-class capabilities from specialized companies around the globe.

When Apple came up with an idea for a new MP3 product line coupled with an online music store, it approached PortalPlayer to mobilize its global

design network; as a result, Apple was able to enter the market with its iPod just nine months after the initial product approval. Apple focused on the external design of the iPod and the user interface design, leaving the rest of the design to PortalPlayer and its design network, and for many years PortalPlayer was the key source for the innovative MP3 functionality embedded in the iPod product.

### The second level of pull: Attract

The first level of pull—access—is very powerful. But in a world of near-constant disruption, its value is finite. Many of us are increasingly finding that we no longer even know what to seek, even with the growing power of search. While it's great that all sorts of information is indexed and sorted on the web, even a daily tour through one's Facebook newsfeed reveals many new people and resources that could be relevant.

How do we find out which ones? How do we specify, when we go to Ask.com, Bing, or Google, the areas of knowledge and expertise that would be most valuable? "Show me the stuff that I really need that I don't even know exists," isn't much of a search string. Access only truly works when we know what we're looking for. At times like these, the cursor blinks in the search engine's textbox, mocking us, asking the existential question: Do you even know what you are looking for? And even if we think we do, it's guaranteed that "unknown unknowns," as Donald Rumsfeld memorably called them, are waiting for us, both as opportunities and as barriers.

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We must supplement search engines and their equivalents by exploring additional ways of pulling people and their knowledge to us. To address this challenge, we will need to master the techniques of attraction in both our personal and professional lives—and learn to harness the power of serendipity, which is the faculty of finding people and things that we did not know we were looking for.

While most all of us already know how to attract something toward ourselves when it's something or someone we've already encountered, few of us seem to realize that we can shape serendipity to attract the people and things we need but didn't realize we were searching for. As we begin to engage with this level of pull, we'll foster encounters with people who can be helpful in expanding our horizons and creating the new knowledge that enables us to achieve new levels of performance. Yet brief encounters are typically of little value. You have to do more than have a brief conversation

or e-mail exchange: You have to invest time and effort and build trust-based relationships if you are to access the knowledge that is most valuable. Building these relationships requires reciprocity: We must be willing to give if we are to receive.

We need serendipitous encounters with people because of the importance of the ideas that these people carry with them and the connections they have. People carry tacit knowledge. You can't learn brain surgery just from a text. You've got to stand next to someone who already knows and learn by doing. Tacit knowledge exists only in people's heads. That means we must not only find the people who carry this new knowledge but get to know them well enough (and provide them with sufficient reciprocal value) that they're comfortable trying to share it with us.

Serendipitous encounters with people—for instance at one of the many conferences now

springing up (around the Internet, biotechnology, or alternative technology, just to name a few current examples) to accommodate the desire of participants to share stories about their experiences with like-minded people—often prove to be far more fruitful than an isolated encounter with new objects or data. In these encounters we not only have the opportunity to access the tacit knowledge other people have gained from their experiences—and to share our own—but can begin to create relationships that may themselves spawn new tacit knowledge as we begin to collaborate on areas of shared interest. Serendipity becomes much more than a one-time encounter or an end in itself: It becomes the crucial means of access to rich flows of tacit knowledge both now and in the future.

### ***Amplifying and filtering***

All of this might make attraction an effective form of discovering the things we didn't know we didn't know, but it also brings up a problem:

How can we possibly have enough time to put this into practice? There are only twenty-four hours in the day. Worse yet, the more effective we are in attracting the attention of large groups of people, the more challenging it becomes as these people seek us out and want to interact with us. We can easily become overwhelmed with the throngs lined up at our door. We will be consumed in meetings and communication and never find the time to build on the new insights and knowledge we are encountering. How do we avoid getting so overwhelmed by what we've set in motion that, like Garbo, we only want to be left alone?

To master attraction, we need two elements to come together in a powerful and reinforcing way. First, we need amplifiers that can help us reach and connect to large groups of people around the globe that we do not yet know (and may not even be aware exist). These amplifiers relate to our choice of where to live, what gatherings we at-

tend, how we conduct ourselves online, and what we do to draw the attention of others. Second, we need filters that can help us to increase the quality as well as the number of unexpected encounters and ensuing relationships that are truly the most relevant and valuable. These filtering techniques help separate the wheat from the chaff in our interactions with others and become ever more crucial as we begin serendipitously drawing more people toward us. By simultaneously amplifying (to increase the sheer number of unexpected encounters) while filtering (to spend time only on those interactions that yield value to us and to others), we can shape serendipity in order to attract from the edges of our fast-moving world the people and knowledge we need in order to thrive.

### The third level of pull: Achieve

Executives can use the techniques of access to find what they need, and can use the techniques of attraction to draw new people, ideas, and informa-

tion to them. Institutions can abet individuals in this by providing them with platforms that allow them to reach out. But pull goes beyond these basics.

Accessing and attracting in fact have diminished value unless they are coupled with a third set of practices that focus on driving performance rapidly to new levels. These practices involve participation in, and sometimes orchestration of, something we call “creation spaces”—environments that effectively integrate teams within a broader learning ecology so that performance improvement accelerates as more participants join.

Creation spaces allow large numbers of participants, often in the millions, to come together to test and refine the practices required to master this third level of pull—achieving their potential more effectively. You can see these creation spaces coming into being in a wide range of activities at

the edges of business and culture. Although from a distance it may look like they are emerging spontaneously, self-organizing in response to the needs of the participants, a closer look reveals that creation spaces are carefully crafted by their organizers, especially in the early stages, to engage the right kinds of participants and foster specific types of interactions, all within environments that unleash the potential for increasing returns to participation and investment.

In fact, these creation spaces may change the way the “experts” look at business strategy. The “experience curve,” first popularized by Boston Consulting Group in the late 1960s, has proved remarkably accurate in describing how performance improves in industries as diverse as semiconductors, toilet paper, and beer. It has been a foundation of business strategy for decades. Yet in all these industries experience curves are also diminishing returns curves—the more experience an industry accumu-

lates, the longer it will take to accumulate enough experience to deliver a comparable increment of performance improvement. By making the most of the techniques of pull that we outline, creation spaces may deliver a very different form of performance improvement curve—one that rises even more rapidly as more and more people join the effort, demonstrating a powerful increasing-returns effect. We call this a collaboration curve to highlight the central role of new forms of collaboration in delivering higher and higher performance levels. Collaboration has always been central to value creation, but harnessing these three levels of pull will amplify the power of collaboration, producing increasing returns that previously have been beyond the reach of most collaboration efforts.

Creation spaces differ in at least two ways from the “learning organization” approaches pioneered a couple of decades ago. First, they emerge as ecosystems across institutions rather than within

a single institution, so they reach a much more diverse set of participants. Second, they are not primarily focused on learning—their goal is to drive more rapid performance improvement, and learning occurs as a byproduct of these efforts.

The moral of the story? To get better faster at whatever it is you do, you've got to be supported by a broad array of complementary people and resources from which you can pull what you need to raise your rate of performance improvement. Passion for one's working activities plays no small role in this dynamic. When people chase what they love, they will inevitably seek out and immerse themselves in knowledge flows, drinking deeply from new creative wells even as they contribute their own experiences and insights along the way. A powerful virtuous cycle begins playing out as more and more people enter creation spaces in their quest to learn faster. In the process of engaging and participating in knowledge flows, they be-

gin to generate new knowledge flows that create even richer environments, attracting the next wave of participants.

It is no accident that most of the early examples of creation spaces—in chapter four of our book we discuss emergent creation spaces in open source software development, World of Warcraft (an online role playing game), and big wave surfing—are initially attracting individuals rather than institutions. Passionate individuals naturally seek out these creation spaces to get better faster, while most institutions are still deeply concerned about protection of knowledge stocks and do not yet see the growing importance of knowledge flows in driving performance improvement.

As passionate individuals engage and experience the performance benefits of participation, they will help to drag institutions more broadly into relevant creation spaces, becoming catalysts for the

institutional innovations required for effective participation.

Shorter-term economic cycles notwithstanding, the slow performance erosion affecting the US corporate sector is an established and long-term trend, one that reflects the diminished usefulness of a push-based philosophy and approach whose time is near its end. Fortunately the outlines of a

new approach are already visible, on the edges and peripheries of our established business and environments. This new approach holds the promise to broadly refashion much of many of our managerial approaches and practices, and even to remake the structure of our business institutions as they focus less on industrial age arrangements and more on ones better suited for the digital age.

# Endorsements for *The Power of Pull*

"The authors have given us a provocative and insightful look at the power of today's knowledge flow. If you want to meet the challenges of working and living in the 21st century, this book should be your guide." - [Eric Schmidt](#), *Board Chairman and CEO of Google*

"*The Power of Pull* is a powerful new meme for navigating and networking in the 21st century. Any one of its 36 key questions (in the 'Bring It Home' sections) could change your life and the world." - [John Doerr](#), *Kleiner Perkins*

"*The Power of Pull* is a roadmap of how to get from where you are now to where you really want to be. Read it and be inspired. (You'll probably want to surf too.)" - [Marc Benioff](#), *CEO of Salesforce.com*

"In times of unprecedented change, we as individuals and institutions can have extraordinary

leverage and influence if we marshal the passion, knowledge and resources necessary to achieve great things. *The Power of Pull* empowers and guides us to make the most of today's enormous possibilities." - [John Naisbitt](#), *author of Megatrends*

"Stop whatever you are doing and read this amazing book. The authors totally nail it. Digging beneath the surface of stuff that distracts us on a daily basis, they unpack the deep forces that really matter and provide a guidebook each of us can use to unleash passion, transform how and why we work, and restore destiny and dignity to our lives." - [Richard Florida](#), *author of The Rise of the Creative Class and The Great Reset*

"This brilliant and exciting book shows how to pursue your passions by harnessing the power of networks. Success no longer comes from possessing knowledge; instead, you have to participate with others in creating a flow of knowledge. The

power of 'pull'—the ability to draw out people and resources for each endeavor—can transform both individuals and institutions." - [Walter Isaacson](#), *President and CEO, the Aspen Institute, and author of Einstein: His Life and Universe*

"Connecting many important threads through beautiful metaphors and wonderful narratives, the authors provide both a mind expanding view of how the world is changing and a solid framework and context to approach the future for anyone interested in surviving and enjoying it." - [Joichi Ito](#), *CEO of Creative Commons and Internet venture investor*

"We live in a global village, where borders are blurred, where all humanity could and should be responsible for the well-being of others. *The Power of Pull* proposes fresh insights that coalesce into a powerful way forward in this new world.

This erudite manual for change is a testament to the creativity and insight of its authors." - [Mark E. Tucker](#), *Former Group Chief Executive of Prudential plc, Member of the Court of the Bank of England*

"This is a seminal work that explores the personal and professional implications of a powerful convergence of technologies, ranging from in memory databases for speed, massive parallel processing in the cloud, access via telephone for anything, anytime, everywhere. We are just beginning to understand what this means for us. The authors help us to understand where and how pull will change our lives and our work given the new digital infrastructures re-shaping our landscape. It offers us a roadmap that we neglect at our peril." - [Hasso Plattner](#), *Founder and Chairman of SAP Supervisory Board*

# About the authors



**John Hagel III** is the co-chairman of the Deloitte Center for the Edge. He is the author of a series of best-selling business books, including *Net Worth*, *Out of the Box* and *The Only Sustainable Edge*.

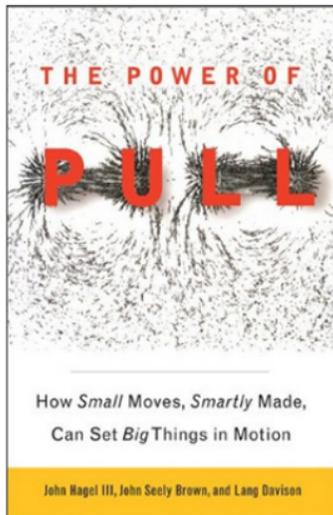


**John Seely Brown** is the independent co-chairman of the Deloitte Center for the Edge. He is co-author of the best-selling book *The Social Life of Information*.



**Lang Davison** is executive director of the Deloitte Center for the Edge. He was also the collaborating writer for the best-selling and critically acclaimed books *Net Gain* and *Net Worth*, both authored by John Hagel.





## Volume Five: Three Levels of Pull

This volume is part of a larger body of work that is discussed in the book, *The Power of Pull*. Other topics in this series include:

- Pursuing Passion
- Shaping Serendipity
- Passion versus Obsession
- Talent: The Dillbert Paradox
- From Passion to Potential

For more information and to read about these other topics, please visit:

[www.deloitte.com/powerofpull](http://www.deloitte.com/powerofpull)

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