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LINKEDIN: bridging THE GLOBAL EMPLOYMENT GAP

Jeff Saperstein and Mariela Gonzalez wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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In 2016, LinkedIn was the largest online platform connecting people to job opportunities and training. The key question facing Jeff Weiner, chief executive officer of LinkedIn, was how to innovate and co-create with stakeholders a stable, yet emergent online platform that could serve a global business community, while technology, job requirements, and the structure of work itself was going through rapid, uncertain transformation.

The concurrent emergence and rapid evolution of multiple new technologies—cloud computing, augmented intelligence, platform technologies, and software applications (apps)—changed both organizational strategies and personal career planning. Knowledge was more widely and rapidly available, analytics more advanced, individual capabilities augmented, intermediaries between buyers and sellers eliminated, and peer-to-peer exchange enabled globally and seamlessly. LinkedIn played a leadership role in this transformation; the company vision, market penetration, and expertise promised to help create a better future to address major problems of global unemployment and underemployment.

Microsoft acquired LinkedIn in 2016. The expertise and large, global scale of the two entities could fundamentally transform the way people worked and planned careers. This included changing how organizations were structured, recruited talent, and trained the workforce; how organizations attracted capital, partners, and customers; and how individuals built their professional networks, set career objectives, acquired knowledge and skills that matched evolving market reality, and worked more effectively.

In September 2013, Weiner had announced the creation of LinkedIn Economic Graph.[[1]](#footnote-1) The graph was a

digital map of the global economy that strived to include a profile for every member of the global workforce and their skills, all open jobs, all employers, and all educational institutions. The graph had the potential to be one of the boldest, game-changing, communications platforms ever conceived to positively affect the future of work. It provided a structurally dynamic platform that co-evolved with a continuously changing workplace. However, LinkedIn was facing challenges in achieving their vision for the Economic Graph.

BACKGROUND

The Employment Problem

In 2016, three billion people globally wanted to work. Most of them needed full-time jobs, but there were only 1.2 billion “good jobs”—paying jobs with employers for steady work that averaged more than 30 hours per week.[[2]](#footnote-2)

Underemployment and employee under-engagement were also challenges. Only 13 per cent of workers were engaged in their jobs, working with passion, and feeling a profound connection to the company. Of the remaining 87 per cent, 63 per cent were “not engaged” and lacked motivation. Outnumbering engaged workers, 24 per cent of workers were “actively disengaged,” openly showing unhappiness with work.[[3]](#footnote-3)

In 2016, almost 200 million people around the world lacked access to the basic skills required to participate in the global digital economy and earn a decent wage. Work using online platforms was growing by 22 per cent annually, compared with 3 per cent growth in jobs performed offline. However, many people were unaware of these opportunities and lacked the basic skills to take advantage of them.[[4]](#footnote-4)

Compounding the employment problem, technology platforms and applications using augmented intelligence were expected to displace or replace many of the current jobs over the near future. Routine repetitive activity such as legal searches for precedents would be conducted by robot assistants; customer interaction and requests would be handled by virtual assistants; and commercial driving (trucks, taxis, and delivery vans) would be performed by virtual drivers, using technology such as Waymo, Google’s self-driving car.

Although these jobs would be replaced with technology, the technology required and created work in technology that would generate careers with new ways to create value. This was substantiated by historic trends that showed that technology created more jobs than it destroyed as people developed new services and businesses based on technological advances. LinkedIn envisioned its Economic Graph to be the connector for these innovations.

LinkedIn’s Foundations

LinkedIn was founded in 2003 by Reid Hoffman, Allen Blue, Konstantin Guericke, Eric Ly, and Jean-Luc Vaillant. The company’s beginnings were humble, starting in the living room of co-founder Reid Hoffman.

The founders imparted their core values to the project. Professional identity was captured in the LinkedIn profiles created by users, in the options for searching for other professionals and services, and in the contacts and networking features. Professional insights could be found on the service’s home page; in the associated Slideshare service; in the company’s blog, LinkedIn Today; in the groups users could form and join, or from LinkedIn-selected “Influencers,” they could follow. Ubiquity in ensuring access to LinkedIn wherever members worked was accomplished with mobile and application programming interface development.

LinkedIn’s 2016 second quarter financial analysis reported that the company’s net revenue almost doubled between 2013 (US$1,529 million)[[5]](#footnote-5) and 2015 ($2,991 million). LinkedIn’s Talent Solutions, a recruiting service consisting of hiring and learning solutions purchased by businesses and organizations, accounted for 62 per cent of revenue. The company’s Marketing Solutions, an advertising platform, and Premium Subscriptions, upgraded personal accounts, equally accounted for the remaining 38 per cent of sales. Individual membership with LinkedIn grew from 277 million subscribers in 2013 to 414 million in 2015.[[6]](#footnote-6)

According to a LinkedIn report to analysts, in 2016, Microsoft acquired LinkedIn for $26.2 billion:

The acquisition provided Microsoft with a new revenue source. LinkedIn’s more than 400 million professional users were the demographic Microsoft needed to help grow [its] Office products and services. LinkedIn’s users also offered opportunities for Microsoft to develop its cloud and customer relationship management initiatives.

The acquisition benefitted LinkedIn by providing the company with capital and opportunities to be incorporated in Microsoft’s Office products and services. This provided LinkedIn with scalability beyond its past customer and business acquisition approaches, using services yet to be developed and implemented by Microsoft and LinkedIn.

LinkedIn’s core challenge was to build a stable communications platform that enabled emergent, spontaneous order among businesses and workers, while disruptive, rapidly developing technologies and workplace transformation were increasingly chaotic. The Economic Graph was designed to address this paradox.

LINKEDIN ECONOMIC GRAPH

The Economic Graph was a digital map of the global economy intended to include a profile of all members of the global workforce and their skills, all open jobs, all employers, and all educational institutions. The Economic Graph in this context was a digitized organization of data that intelligently connected individuals to other individuals, groups, and organizations.

The Vision

Weiner, chief executive officer, described his vision for the Economic Graph in a blog post:

We want to digitally map the global economy, identifying the connections between people, jobs, skills, companies, and professional knowledge—and spot in real-time the trends pointing to economic opportunities. It’s a big vision, but we believe we’re in a unique position to make it happen.

Reid Hoffman and the other founders of LinkedIn initially created a platform to help people tap the value of their professional networks, and developed an infrastructure that could map those relationships through several degrees of separation. In doing so, they provided the foundation for what would eventually become the world’s largest professional graph.

Our current long-term vision at LinkedIn is to extend this professional graph into an economic graph by digitally manifesting every economic opportunity in the world (full-time and temporary); the skills required to obtain those opportunities; the profiles for every company in the world offering those opportunities; the professional profiles for every one of the roughly 3.3 billion people in the global workforce; and subsequently include the professional knowledge of those individuals and companies in the graph.[[7]](#footnote-7)

Blue, co-founder, vice-president and product manager, encapsulated the vision: “LinkedIn’s vision is to create economic opportunity for every member of the global workforce . . . not just white collar workers with four-year college degrees. Everyone.”[[8]](#footnote-8)

Components and Benefits

According to LinkedIn, the Economic Graph contained the following:

* Information about where people worked and where they had worked, and the employment history of almost every company and organization in the world;
* A rolling picture of the skills that existed in the world and how that picture was changing over time;
* Jobs that were available, where opportunities were, and where there was an increased chance of being hired for money; and,
* Connections between people and to organizations.

Benefits to Individuals

According to Blue:

Every professional can now know what jobs are available, what skills are required, how to acquire those skills, and which relationships can help land a job. Information that was hidden is now accessible.

Note that when LinkedIn says “professional,” we mean it in the largest sense: anyone who works.

When doing work, every professional can find information they need to do their work well (best practices, guides, training), but more importantly to find the people who can help: mentors, fellow practitioners, experts to answer questions, and members of their networks willing to share their own experiences.

Because professionals will be able to see information about careers and skills, they can see skills gaps—both their own (what skills do I need) and global (what skills are most in demand). Using that information, professionals will be able to locate training to close those gaps, and will be able to do so on a lifelong basis.

Blue described how the Economic Graph could level access to talent:

We know that most new jobs are created in small and medium size businesses (SMBs). The Economic Graph should allow those SMBs to grow more quickly and efficiently: through sales and marketing; through cost-effective hiring; through better internal tools and collaboration; and from Economic Graph-based insight; therefore, create more jobs across the world. Effectively, the Economic Graph makes SMBs as informed and powerful as large, multi-national enterprises. These capabilities also allow individual professionals to begin their own SMBs—another career option many people currently consider out of their reach.

A discussion about the value of the graph for professionals focused on three areas:

* Advancing a career
* Getting a job, a raise, a new role
* Acquiring the skills required for a new role
* Exploring career options, up to and including working independently or creating a business
* Staying connected and informed
* Becoming informed about the latest in an industry and areas of professional interest
* Making great professional decisions (from small, everyday decisions to major business or career decisions) based on the knowledge in the network
* Helping people achieve their goals and building a strong network
* Excelling at a profession
* Doing work (e.g., recruiting, marketing, or selling) well
* Working effectively with colleagues (e.g., a recruiter getting referrals from people inside the company)

Value in the graph frequently came from two professionals (e.g., a recruiter and a jobseeker) exchanging information, connections, and professional references with each other. That meant that LinkedIn paid attention to marketplace dynamics within the economic graph.

Benefits to Organizations

Blue described the value of the Economic Graph for organizations:

The Economic Graph allows companies to recruit the best talent for their organizations. Not only do active jobseekers apply for jobs, but also recruiters can reach into the graph to find the best talent—people who might not even be looking for a job.

The graph also makes it possible for recruiters to better understand the market for any given role (e.g., level of demand for skills, availability of talent in a specific location).

And the graph, because it connects individuals together, allows recruiters to find people with socially verified reputations. Endorsements and recommendations on LinkedIn can provide insights on a professional’s actual skills and capabilities—information which was typically very hard to find in the past.

Unfortunately, recruiters continue to make decisions based on educational pedigree (e.g., a B.A. from a well-known school). This tells the recruiter very little about a candidate’s specific skills. And worse, it actively closes off opportunities to skilled candidates who come from other backgrounds. The Economic Graph, in providing more information about individuals, can help break down this system and change the way people think about hiring.

LinkedIn Learning is also helpful for organizations to understand how skills are distributed throughout the company, comprehend what skills’ benchmarks should be, and provide training internally to help close gaps for individuals—producing better work and greater employee loyalty.

Benefits to Educational Institutions

“Educational institutions—like community colleges, boot camps, and vocational schools—that collaborate with local employers typically [had] high placement rates.”[[9]](#footnote-9) However, many educational institutions had not, or could not, work with employers when developing curricula.

The Economic Graph could help educators better understand the skills gaps they could bridge and find employer partners with whom to work. LinkedIn Learning could show which fields were most in demand so everyone could access, advise, and self-direct their education matching to an ever-changing market reality.

A Smarter Economic Graph

Before the Internet was broadly available, knowledge was expensive. Search engines made information broadly accessible, giving everyone access to the same set of information. That information changed organically as people published, posted, and discussed online, but a search engine naturally kept up with those changes because it returned what was current on the Internet.

LinkedIn’s Economic Graph was set up to work the same way. Professionals used LinkedIn for many reasons, and updated their profiles even when they were not looking for jobs. That data then became the basis of LinkedIn’s knowledge of skills, demand, skills gaps, and more.

This ability to continually update and revise was a key factor that allowed LinkedIn to address the core issue: how to maintain a stable employment platform with a continuous, unpredictable market and workforce transformation.

Context for the Economic Graph

The Emergence of the Entrepreneurial Mindset

Hoffman, one of LinkedIn’s co-founders, became an evangelist for self-reliance built upon connection with others for mutual benefit. He maintained that people needed to switch their thinking from being employees to being employable. That meant doing work that created value, getting paid for the work and learning new skills, and enhancing the ability to find work in the future.[[10]](#footnote-10)

According to Hoffman:

Globalization and technology are two macro-forces that have disrupted traditional career forces.

What’s required now is an entrepreneurial mindset. . . . [I]f you want to seize the new opportunities and meet the challenges of today’s fractured career landscape, you need to think and act like you’re running a start-up: your career.

Entrepreneurs deal with uncertainties, changes, and constraints head-on. They take stock of their assets, aspirations, and the market realities to develop a competitive advantage. They craft flexible, iterative plans. They build a network of relationships throughout their industry that outlives their start-up. . . . [T]o succeed as a professional in today’s world, you need to adopt these same entrepreneurial strategies.[[11]](#footnote-11)

Developments in Technology

LinkedIn’s Economic Graph was enabled by the revolutionary developments in technology provided by the advent of cloud computing, digitized data, augmented intelligence, mobile computing, platforms, and software applications.

Ginni Rometty, the chief executive officer of IBM, described how the world was being rewritten with technology-enabled global innovation and interconnectivity: “Where code goes, where data flows, cognition will follow.” She maintained that augmented intelligence, such as IBM’s Watson, “enhances, scales, and accelerates human expertise.”[[12]](#footnote-12)

The *cloud* was where you could connect public and private information and integrate it intelligently. The cloud accelerated processes. The cloud’s flexibility was essential to connect cognitive processing to a fast-moving stream of “big data” that was often extremely time-sensitive.

A *platform* was a data, cloud, and cognitive system that enabled infinite applications to create new services and products.

*Data* was all the information collected on the Internet. Eighty per cent of the data was “dark,” meaning the Internet may hold that data but it did not know what it was; that is, it wasn’t catalogued or picked up by a search engine. Providing the right data at the right time, in the right form, created value.

*Cognition* was about thinking, and as an era, think of this: These are systems that . . . understood not just . . . unstructured data like video and songs, you name it, but they also reasoned and learned. They are like a child: the more information, the more they learn. They understand, they reason, and they learn.

The *cognitive era* is not a supercomputer; it is a cloud, a set of services that can go in any part of the business.

Rometty noted that mobility created the opportunity to “reimagine how work gets done.” It involved geographically dispersed workers, who could work from any device and access anyone. “You will have scale expertise; you will have a different form of engagement with customers; you will have different products and services; you will change the way you do research. Anyone who does research will fundamentally be changed.”

The cloud allowed processes to be scaled. Most information technology applications were relatively low intensity, such as surfing the web or using email. The cloud allowed big processing engines to be activated quickly. The cloud enabled collaborative innovation, offering a rich base of services that allowed mixing and matching, rapidly assembling powerful cognitive applications. According to Zoe Baird, chief executive officer and president of the Markle Foundation, “Systems know persons and they match them with open positions.”

This is where LinkedIn’s Economic Graph came into play.

Platforms as the New Institutions

The Markle Foundation partnered with LinkedIn on regional-based planning (in metropolitan areas such as Denver and Phoenix) to bring together the stakeholders in businesses, education, government, and other areas to increase access to opportunity by prioritizing skills and removing barriers that kept many talented people from applying for in-demand jobs.

Baird described the relationship with LinkedIn:

LinkedIn connects the world of education and employment together, because they are very separated from each other. . . . [T]here are a lot of tools, which can signal to an employer that this is the kind of person we want to hire. We felt we had to be able to use technology as an enabler to help people find new paths, new opportunities. . . . In the digital economy we need to remake our institutions, and we have the capacity to do that in a much more granular way, and that’s what technology and digitalization gives us.

Platforms are the breakthrough technology at the moment; they are the institutions at the moment; they are the enablers.

With platforms and technology rapidly evolving in unpredictable ways, people would need to adapt collectively and individually to accelerating, dynamic change. To achieve some semblance of stability, people required a new, agile, entrepreneurial mindset that could adapt without knowing what the future changes may be, based on rapidly emergent platforms and technology.

The Economic Graph promised to both scale and evolve as a stabilizing and connecting asset to help people adapt to change with new guidelines and best practices for preparing and engaging in an ever-evolving workplace.

the Challenges

How could LinkedIn innovate and co-create with stakeholders a stable, yet emergent, increasingly scaled, online platform that could serve a global business community, while the structures of those stakeholders inhibited interconnectivity, the skill sets for workers were evolving, and the requirements for and nature of work itself was going through rapid, uncertain transformation?

More specific considerations included how to expand to include less educated adults for jobs they may not be qualified for, and how to connect people in regions with different business cultures, values, and practices.

LinkedIn relied on stakeholders, such as individuals, organizations, universities, governments, and training organizations, to provide information. The system used augmented intelligence to gather this information from what was posted on LinkedIn as well as information that stakeholders themselves chose to include in their profiles. Universities may not have wanted to have their graduation rates, salaries of alumni, or industry hire rates to be readily available and easily accessed. Companies may not have wanted the length of employment by their workers or the percentage composition of part-time or outside contractors publicized. How could this open source information be better coordinated among the stakeholders, recognizing that not all participating entities were willing to disclose their information or be rated or judged?

Another challenge was to define “soft skills” and connect people with good soft skills with hiring managers. Recruiters had a difficult time finding people “with the right ‘soft skills’ or personal attributes.” A new Learning Path was “designed to help people learn the most in-demand soft skills.” In LinkedIn’s study of 291 U.S. hiring managers, the managers agreed it was “hard to find people with the right soft skills for 59 per cent of their open jobs.”[[13]](#footnote-13)

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