

Feature Article

Employer Branding: Understanding Employer Attractiveness of IT Companies

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Abstract—Attracting and retaining IT talent remains challenging for IT executives. The limited supply of highly skilled candidates, combined with high workforce mobility, results in considerable hiring, training, and developing costs. To help IT employers overcome these challenges, the authors discuss employer branding as one strategy to manage firms' reputations as “great places to work.” Based on a content analysis of nearly 15 000 employee reviews, this article identifies and describes eight values that IT professionals care about when evaluating IT employers, highlights which values are most important, and provides recommendations for how IT firms can use employer brand intelligence to attract and retain IT talent to remain competitive.

■ **WITH SOME REGIONAL** differences, employment levels in most developed countries are high, and competition for skilled workers is intense. In 2014, 36 percent of global employers criticized talent shortages—the highest percentage since 2007—and in a 2015 study, 73 percent of CEOs reported being concerned about the availability of key

skills.¹ Attracting and retaining the best talent is a concern particularly for knowledge-based firms in IT, which rely on a limited supply of highly qualified individuals.² As the population ages, as baby boomers retire, and as the number of computer science graduates decreases, competition for talent will become an increasingly important issue for IT firms.³ On top of that, IT professionals tend to vote with their feet if they do not like the working conditions their employers offer. Thus, IT firms are constantly looking for effective strategies to attract

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and recruit new talent and to retain their current employees.

Employer branding is an effective strategy by which to gain an edge in increasingly competitive employment markets. Working from a resource-based view (RBV),⁴ employer branding is predicated on the assumption that human capital brings value to the firm and that skillful management of human capital can lead to a sustained competitive advantage.⁵ The reputation of an organization as a place to work is known as an “employer brand,” and employer branding encompasses a firm’s efforts to communicate to existing and prospective staff that it is a desirable place to work.^{6,7}

However, what are the factors that make an IT firm a desirable or even a top employer in the hearts and minds of IT professionals? What should managers focus on to attract and retain a highly talented IT workforce? This article provides answers to these important questions that, in turn, allow IT firms to manage their employer brands more effectively and successfully compete for IT talent.

EMPLOYER BRANDING AS A STRATEGY FOR SUSTAINED COMPETITIVE ADVANTAGE

Brands are among a firm’s most valuable asset; as a result, brand management is a key activity in many businesses.⁶ Firms spend considerable effort on building strong product brands; however, branding is increasingly used in human resource management as well. The latter is known as “employer branding,” and an “employer brand” describes a firm’s reputation as a place to work and its value proposition to current and potential employees.^{6,8,9} The term “employer brand” was first coined in 1996, and early studies posited that this reputation is influenced by the functional (developmental), economic (monetary), and psychological (sense of belonging) benefits provided to employees associated with the employing company.⁸ A decade later, these benefits were extended to five (economic, social, application, development, and interest value of work) and later seven (economic, social, application, development, interest value, work/life balance, and management).¹⁰ If the employer brand encompasses

a firm’s reputation as an employer, employer branding is the “sum of a company’s efforts to communicate to existing and prospective staff that it is a desirable place to work.”⁷

This notion suggests that a firm’s employer brand results from the deliberate consideration of three steps.¹¹ First, there is developing the value proposition, or creating a concept of the particular value(s) a firm offers to employees. Second, there is communicating the value proposition to potential employees and other external stakeholders via external branding activities with the goal to establish the company as an employer of choice and to attract the best talent. Internal branding is the third step and involves delivering on the brand promise made to recruits. Internal branding reinforces that the firm is a great place to work and contributes to employee retention.

Most of the existing research on employer branding has focused on cross-industry investigations; however, little guidance exists on the types of benefits that turn an IT firm into a top of employer of choice. This is important to understand as competition for talent is high in IT, and firms are constantly looking for effective strategies to attract and retain a highly skilled workforce that is limited in supply.

Employer branding rests on the assumption that human capital adds value for a firm and that effective management of human capital can enhance firm performance.⁵ RBV supports this notion, suggesting that certain characteristics of a firm’s resources can contribute to sustained competitive advantage.⁴ Specifically, resources that are rare, valuable, hard to imitate, and not substitutable allow a firm to move ahead of its competition. External marketing of the employer brand establishes a firm as a great place to work and thereby enables it to attract highly skilled employees that are limited in supply or rare.⁵ Internal marketing helps create a workforce that cannot be easily imitated by other firms. By continuously exposing employees to the value proposition of the employer brand, a unique workplace

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culture is created that is shaped around the corporate goals, enabling the firm to do business in “their own unique way.” This distinctive workforce can be a source of competitive advantage if it is sustainable. Employer branding, specifically internal marketing of the employer brand, reinforces that a firm is a great place to work, thereby contributing to employee retention.^{5,8}

The degree to which a firm’s brand identity (the brand a firm intends to convey)¹² matches the *perceptions* of current and future employees determines the brand’s impact in the market—the better the match, the higher the impact. With the advancement of new technologies and web 2.0,¹³ how employees perceive their employers is no longer formed solely by experiences within an organization’s four walls. Rather, IT professionals are turning to social media and online employer review sites to share and access work-related experiences openly and across organizations, which changes the expectations and assessments of their workplace. To manage their public employer brand, IT firms need to understand this brave new world of online employer branding.

ANALYZING EMPLOYEE REVIEWS FOR IT FIRMS: METHODOLOGY

Glassdoor is an online labor market intermediary where users anonymously review companies and their management.¹⁴ With 33 million subscribers globally, 10 million company reviews of 600 000 employers, and more than 24 million monthly users from the United States alone, Glassdoor is currently the most popular company review site. Following the approach employed in previous academic studies, we utilize Glassdoor as a data source for our study.^{11,14} The “Company Reviews” section of Glassdoor features six mandatory fields that reviewers complete; in addition, they are encouraged to enter text information, including “pros” (aspects that reviewers like) and “cons” (aspects that they dislike).

To understand the factors that IT employees care about in their evaluation of an employer brand, we chose the ten IT firms that scored the highest and the three that scored the lowest on Glassdoor in 2017 among all IT companies listed on the site. Each of the IT firms in our sample was among the 20 “Best Places to Work” and “Worst Places to Work,” according to the employees’

choice among all companies listed on Glassdoor.¹⁵ A web crawler scraped all of the reviews, including pros (praises) and cons (complaints), for these companies, resulting in a dataset of 14 927 reviews. Employee reviews that did not reveal the job title and reviews from non-IT professional roles, such as administrative, legal, marketing, and finance, were removed from our dataset. The firms and the final number of reviews retained for analysis are highlighted in Table 1.

Analysis

We then turned to the artificial intelligence engine Watson to analyze the content of all of the reviews. Watson Analytics uses natural language processing¹⁶ to understand and interpret text and speech just as another human would, rather than relying on programmed or coded instructions the way other content analysis programs do. Watson has previously been employed in academic research¹⁷ and offers a remarkable value

for content analysis, as it can process a large volume of both structured and unstructured data in a short amount of time. When searching for concepts and themes in the text, Watson employs dif-

ferent types of facets: one of which is analyzing the sequence of words and phrase constituents.¹⁸ For example, when analyzing a Glassdoor review like “money money money money money, and the free food, free trainings,” Watson’s output gives us “free food,” “free training,” and “money.”

We developed a dictionary of employer value propositions, which was informed by the existing literature.^{6,8,10} One researcher then coded Watson’s output of phrase constituents to each of the value propositions in our data dictionary. For example, the phrase constituent “free food” was coded to the value proposition “economic value,” while “free training” was coded to “development value.” Two other researchers independently reviewed and compared the coding for reliability.

Our results confirmed previous research findings with respect to the importance of education and development opportunities and nonmonetary “perks.”

Table 1. Glassdoor's Top- and Bottom-Ranked IT Firms in 2017.

Top companies			
Rank IT firms	Rank IT firms	Company	Number of reviews
1	2	Facebook	833
2	4	Google	2165
3	5	World Wide Technology	162
4	6	Fast Enterprises	290
5	8	LinkedIn	638
6	9	Adobe	1224
7	15	SAP	2204
8	16	Mathworks	279
9	17	Salesforce	858
10	20	Intuit	1374
Bottom companies			
1	3	Xerox	2176
2	6	Dish	1958
3	10	CompuCom	766
Total			14 927

The final step in our data analysis encompassed calculating the relative frequency with which specific value propositions emerged in our dataset (relative to all employee reviews). These results are highlighted in Figure 2. We then conducted further analysis, such as calculating the percentage with which each value proposition was mentioned by employee tenure.

WHAT FACTORS MAKE AN IT FIRM A TOP EMPLOYER?

Our results extended previously discussed dimensions of an employer brand.^{6,8,10} It confirmed previous research findings for IT professionals in particular, for example, with respect to the importance of education and development opportunities and non-monetary “perks.”^{14,19} The results revealed a total of eight employer value propositions for employer branding, highlighted in Figure 1.

Social Value

Social value refers to the gratification that IT employees gain from working with others.

Employees cared strongly about an organizational culture that focuses on people, talented colleagues, and a team approach to problem solving.

Interest Value

Employees of IT companies evaluated the interest value of their work based on how challenging and achievable their specific tasks and job requirements were. Work interest value also encompassed whether the work required innovative approaches to problem solving and openness to new ideas such as “cutting-edge technology.”

Application Value

Comments related to the application value revealed the importance to IT employees that their knowledge and skills are applied in a meaningful way. This encompassed contributing to the success of their employer and providing high-quality and innovative products and services to customers.

Development Value

IT professionals showed a concern with opportunities for lateral or vertical career growth and professional development opportunities.

EIGHT VALUE PROPOSITIONS FOR EMPLOYER BRANDING							
SOCIAL VALUE	INTEREST VALUE	APPLICATION VALUE	DEVELOPMENT VALUE	ECONOMIC VALUE	MANAGEMENT VALUE	WORK/LIFE BALANCE	BRAND IMAGE
Is this a fun place to work with talented people and a great organizational culture?	Is the work interesting, challenging and achievable?	Is the work meaningful and does it invite the application of knowledge and skills?	Are there opportunities for employees to grow and advance professionally?	Is work rewarded appropriately through salaries, benefits and perks?	Are managers good, honest leaders who inspire, trust, protect, enable and respect employees?	Are work arrangements flexible enough to achieve success on and off the job?	Through the eyes of employees, how is the firm's brand perceived? Is it seen as cool and innovative?

Figure 1. Eight value propositions for employer branding.

Economic Value

IT employees' comments about the economic value were primarily concerned with compensation and various types of employee benefits, such as medical or dental benefits, holidays, "unconventional" perks such as free food, and others.

Management Value

Current and former IT employees assessed their employers based on the leadership qualities of their superiors. Some of these qualities mentioned by employees included managers' competence, having a strong vision, and being able to motivate and inspire others.

Work/Life Balance

IT professionals emphasized their desire to balance work-related with nonwork-related commitments, such as family, leisure activities, or volunteering, and praised how "flexible working hours" enable them to meet these obligations.

Brand Image

Brand image emerged as a new value proposition that IT employees specifically cared about when evaluating IT employers. While brand identity describes the brand a firm intends to portray, brand image is how the brand is perceived through the eyes of its target audience.¹² Here, brand image is defined as how employees perceive the company brand as an employer. In their reviews, IT professionals expressed their desire to work for an "exciting," "cool," or "hip" company in a great location.

We also examined the Pearson correlations between the eight value propositions (regardless

of whether they described pros or cons of the companies). Although the correlation coefficients between the values are statistically significant (likely due to large sample size), the coefficients are quite small (less than 0.3). As such, we are confident that the value propositions represent distinctive dimensions for employer branding.

While all eight value propositions were mentioned by employees, not all mattered to the same extent, and their relative importance varied with employee tenure. In terms of valences, current and former IT professionals either praised how attractive value propositions were in their firms (positive valence) or shared their dislikes through complaints (negative valence). Analyzing how many times a value proposition was mentioned in a positive or negative light indicated its relative weight and allowed us to identify the ones most important to current and former IT employees (see Figure 2).

Figure 2 highlights the similarities and differences for praises and complaints among current and former employees. Employers can use these value propositions to determine focus areas for both recruitment and retention activities. For example, a large difference between former and current employees in a value proposition (such as management) might suggest that this value contributed to employees leaving the company, and therefore, firms might want to address this issue in their internal branding activities.

As illustrated in Figure 2, there are four value propositions that account for the largest part (70–84%) of people's comments, suggesting that IT professionals strongly care about a limited number of factors when evaluating top

		TOP COMPANIES		BOTTOM COMPANIES	
		Praises	Complaints	Praises	Complaints
CURRENT EMPLOYEES	Social	25%	16%	19%	9%
	Interest	19%	19%	18%	16%
	Application	2%	2%	2%	6%
	Development	6%	8%	12%	6%
	Economic	19%	3%	13%	15%
	Management	2%	14%	4%	19%
	Work/Life Balance	9%	8%	12%	9%
	Brand Image	17%	29%	20%	20%
FORMER EMPLOYEES	Social	26%	19%	23%	9%
	Interest	20%	17%	17%	14%
	Application	2%	3%	2%	7%
	Development	5%	6%	10%	5%
	Economic	20%	2%	15%	12%
	Management	1%	21%	4%	21%
	Work/Life Balance	8%	6%	10%	11%
	Brand Image	17%	26%	18%	20%

Figure 2. Weights and valences of employer branding value propositions.

IT places to work. For IT firms, this implies that they can focus their employer branding efforts and resources on the values that matter most to

IT firms need to monitor and address criticism of management as part of their internal branding to prevent employee frustration.

people. In addition, IT professionals emphasized different values when praising or complaining about their employers. This suggests that there are “praise factors” that attract talent, while “complaint factors” point to key reasons why IT employees leave their places of work.

“Social value,” such as a collaborative work environment and smart colleagues, was an important praise factor for current and former IT employees. In other words, even employees who had left their employers positively commented about the social aspects of their place of work. For IT firms, this suggests that they should prominently feature this value proposition in their external branding activities. Furthermore, the social value was praised more by employees in top companies compared to bottom companies, suggesting that bottom companies are advised to focus more on the social value in their employer branding activities.

“Interest value” was an often-mentioned praise and complaint factor among current and former IT professionals in the top and bottom companies. This suggests that the interest value is equally important for attracting and retaining IT talent and that IT firms should emphasize how stimulating and interesting the work is in their external

and internal branding efforts. Employees’ complaints about the interest value revealed their frustration with bureaucracy, repetitive tasks, and a mismatch between qualifications and job profile.

“Economic value” was consistently praised and not complained about in top companies, and even former IT employees positively commented on pay, perks, and benefits, suggesting that other reasons than economic ones were at play when they left their jobs. It is well known that top IT employers reward work with attractive financial and nonmonetary perks,³ and IT firms should consistently highlight the economic value of their external branding activities to recruit top talent. Further analysis could determine whether the economic value is a true motivator—one that increases job satisfaction and contributes to employee loyalty or a hygiene factor that provides neither positive satisfaction nor higher motivation but creates dissatisfaction and reasons to leave if absent.²⁰ Among employee reviews of the bottom companies, “economic value” was consistently complained about by current and former employees. This suggests that financial compensation might be a reason for employee attrition that IT companies should manage.

If “social” and “economic” are key praise factors, “management” is a major complaint factor that former IT employees, in particular, grumbled about. In their complaints about management, employees criticized the lack of leadership skills and being micromanaged, among others, and these complaints increased with tenure. The influence of good and bad superiors at work was tremendous and suggests that employees do not

leave or stay at a workplace because of their companies; rather, they leave or stay because of their bosses. In order to retain top talent, IT firms need to monitor and address criticism of management as part of their internal branding to prevent employee frustration and churn.

Brand image was uncovered to be another main complaint factor. Among the top IT firms, both current and former IT professionals shared more negative opinions about the brand of their employers than praises, and the complaints revealed employees' disappointment about the company itself. This suggests that their expectations of how innovative, hip, or cool their employer would be were not met. Interestingly, current employees' complaints about brand image decreased with increasing tenure. This points to a significant gap between brand image and brand identity—in other words, how IT firms convey their employer brand externally to attract talent and how, in the eyes of new recruits, they deliver on the promises made internally. IT firms are advised to spend considerable attention on aligning their external and internal branding strategies to avoid this gap and succeed in retaining new talent. At the same time, former employees increasingly complained about the brand image the longer they worked at an IT firm, suggesting that the gap in brand image and brand identity is a key contributing factor to employees leaving the company.

Other value propositions, such as application, work/life balance, or development value, were mentioned less frequently in the reviews, and employees equally praised and complained about these values in the top companies. This suggests that these three value propositions do not feature strongly in attracting or retaining IT talent. However, rather than ignoring these value propositions completely, managers might want to monitor over time to assess if and how employees' perceptions about these values change.

CONCLUSION

Our analysis of nearly 15 000 reviews of IT firms extends previous discussions of employer branding in interesting ways and has implications for practitioners and academics. Our study contributes to RBV by improving our understanding

of a particular human resource management strategy, namely, employer branding.

In addition, several future research opportunities arise from our study. While our study considered current and former employees in determining employer branding value propositions, future research could examine the factors that are important to *future* IT talent. For example, what factors make IT firms a top employer of choice in the minds of students in IT programs at colleges or universities? An answer to this question provides practitioners with valuable insights to ensure that the employer brand they are building today actually meets the needs of the future. In addition, future studies could investigate the employer perspective. Comparing and contrasting the views of employees and employers could bring to light gaps that would be important for IT firms to be aware of so they can be addressed effectively.

Our study also has implications for managers. First, managers can use the employer attractiveness spectrum presented in Figure 2 to determine which top employers in the IT industry do well and compare how their own firms “stack up” against their competition. In other words, understanding the employer value propositions allows IT firms to better compete for highly qualified and scarce IT talent.

Second, our analysis highlighted that four of the eight value propositions are most important for developing and communicating impactful employer branding value propositions. Paying attention to what matters most to IT professionals can help IT firms focus their resources and become and remain great places to work that attract and retain highly skilled talent, which can be a source of sustained competitive advantage. This study also included the analysis and data from bottom companies.

Third, our study demonstrated how data mining of employer review sites allows managers to understand the perceived attractiveness of their firms as employers. We introduced two important tools (the eight employer branding

Data mining of employer review sites allows managers to understand the perceived attractiveness of their firms as employers.

value propositions and their relative valences and weights) to help managers make sense of this data.

While we analyzed reviews across various types of IT professionals for this paper, managers can use the tools introduced herein for a more granular analysis of the employer branding preferences of specific types of IT professionals.

■ REFERENCES

1. R. Mosley, "CEOs need to pay attention to employer branding," *Harvard Bus. Rev.*, vol. 11, 2015.
2. M. T. Ewing *et al.*, "Employment branding in the knowledge economy," *Int. J. Advertising*, vol. 21, pp. 3–22, 2002.
3. R. Wilden, R. Gudergan, and S. I. Lings, "Employer branding: Strategic implications for staff recruitment," *J. Marketing Manage.*, vol. 26, nos. 1–2, pp. 56–73, 2010.
4. J. Barney, "Firm resources and sustained competitive advantage," *J. Manage.*, vol. 17, no. 1, pp. 99–120, 1991.
5. K. Backhaus and S. Tikoo, "Conceptualizing and researching employer branding," *Career Develop. Int.*, vol. 9, no. 5, pp. 501–517, 2004.
6. A. Dabirian, J. H. Kietzmann, and H. Diba, "A great place to work!? Understanding crowdsourced employer branding," *Bus. Horiz.*, vol. 60, no. 2, pp. 197–205, 2017.
7. S. Lloyd, "Branding from the inside out," *Bus. Rev. Weekly*, vol. 24, no. 10, pp. 64–66, 2002.
8. T. Ambler and S. J. Barrow, "The employer brand," *J. Brand Manage.*, vol. 4, no. 3, pp. 185–206, 1996.
9. S. J. Barrow and R. Mosley, *The Employer Brand: Bringing the Best of Brand Management to People at Work*. Hoboken, NJ, USA: Wiley, 2011.
10. P. Berthon, M. T. Ewing, and L. L. Hah, "Captivating company dimensions of attractiveness in employer branding," *Int. J. Advertising*, vol. 24, no. 2, pp. 151–172, 2005.
11. "Glassdoor traffic," Quantcast.com, 2017. [Online]. Available: www.quantcast.com/glassdoor.com/#trafficCard.
12. S. Nandan, "An exploration of the brand identity–brand image linkage: A communications perspective," *J. Brand Manage.*, vol. 12, no. 4, pp. 264–278, 2005.
13. J. H. Kietzmann *et al.*, "Social media? Get serious! Understanding the functional building blocks of social media," *Bus. Horiz.*, vol. 54, no. 3, pp. 241–251, 2011.
14. P. Tambe, X. Ye, and P. Capelli, "Poaching and retention in high-tech labour markets," 2017. [Online]. Available: www.scheller.gatech.edu/academics/conferences/poaching-high-tech-tyc.pdf.
15. "Best places to work for—2017 employee choice," Glassdoor, 2017. [Online]. Available: www.glassdoor.com/Award/Best-Places-to-Work-LST_KQ0,19.htm.
16. R. High, *The Era of Cognitive Systems: An Inside Look at IBM Watson and How It Works*. Armonk, NY, USA: IBM Redbooks, 2012.
17. C. Pitt *et al.*, "Emotions and sentiment: An exploration of artist websites," *J. Public Affairs*, vol. 18, 2017, Art. no. e1653.
18. *IBM Watson Content Analytics: Discovering Actionable Insight From Your Content*. Armonk, NY, USA: IBM Redbooks, 2014.
19. S. Mithas and M. S. Krishnan, "Human capital and institutional effects in the compensation of information technology professionals in the United States," *Manage. Sci.*, vol. 54, no. 3, pp. 415–428, 2008.
20. F. Herzberg, B. B. Snyderman, and B. Mausner, *The Motivation to Work*. 2nd ed. Hoboken, NJ, USA: Wiley, 1966.

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