

The Information Technology Revolution: Redefining the Employee/Employer Dynamic and the Role of Human Resources

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Introduction

Bill Gates once stated that “information technology and business are becoming inextricably interwoven. I don't think anybody can talk meaningfully about one without talking about the other” (Gates, 1999). The proliferation of the information age has become forever ingrained into the fabric of society, forever changing the way most people live, work, and play. Focusing solely from a business perspective, the internet has revolutionized the speed in which business is conducted while lowering transaction costs and expanding a firm's reach. In recent years, the advent of social media, popularized through services such as LinkedIn, Facebook and Twitter, has dramatically altered both the way people communicate and the speed in which information is disseminated. With all of this in mind, it is not difficult to understand the impact the social media has had on traditional relationship between employers and employees. Practically every aspect of the employment relationship has shifted, from the ways in which employers source and attract talent, to the methods utilized to measure human capital needs and fill capability gaps, to the ways in which they seek to continuously engage and retain top talent. As a result of these changes and the ever-evolving needs of the business environment, the HR function has evolved into a key strategic business partner and a vital component to the sustained success of an organization. Throughout the course of this paper both of these elements will be explored in further detail, providing a thorough understanding of technology's role in reshaping the employer/employee relationship and redesigning Human Resource's value proposition within the organization.

Recruiting

While innovations in information technology have had a profound impact upon numerous aspects of personnel management, its effects have been most widely seen within the field of recruiting. From the mid 1990's through the early part of the 21st century, the benefits of online job postings, application submissions and processing have led to significant reductions in recruiting costs, increased efficiencies in candidate attraction, and decreased time to fill rates. Many organizations have turned to applicant screening programs, such as Oracle's *Taleo*, that focus on identifying key resume buzz words and candidate experience in order to automate the screening process and produce a smaller pool of qualified individuals for further consideration. These programs also offer users greater insights into the status of their recruiting activities, helping to collect and interpret candidate data while also evaluating the success rate of the company's various recruiting sources and specific initiatives. With benefits such as these, it's no wonder that a recent Towers Watson survey found that technology plays a key role in hiring at 92 percent of large companies (those with more than 20,000 employees) and 77 percent of medium-sized companies (between 5,000 and 20,000 employees) (Robb, 2013).

If properly designed, the utilization of a recruitment management program helps employers to not only identify an appropriately qualified candidate pool but also aids in weeding out individuals who may not match the values of the company. This was Burger King's goal as they updated their online recruiting program in 2010. Here management sought to identify potential candidates on two key competencies: customer service and reliability. By including a series of carefully constructed assessment questions for applicants to answer, management was able to easily pare down their applicant pool to include only those who best matched the organization's

core values (Zielinski, 2010). Assessment tools such as these can have a significant impact on the applicants' perceptions of a company, as they become familiar with that company's value structure early on in the hiring process, helping candidates determine if these values match their own. Candidates that proceed further in the process are generally more knowledgeable about the company's culture and are more likely to fit within the organization if ultimately hired.

The Impact of Social Media

While these technological innovations have certainly left their mark, the emergence of social media has had a far greater effect in helping recruiting professionals in an attempt to land the elusive white whale: the passive job seeker. Often viewed as more experienced and productive than those typically on the job hunt, passive job seekers have always been difficult to pursue as they don't frequent traditional recruiting channels. Traditional recruiting techniques (job postings, career fairs, etc) primarily cater to active job seekers as people who are generally content with their current position do not seek out these events. Outside of industry events or associations, recruiters have little exposure to passive job seekers, making it extremely difficult to obtain their interest. Social media sites such as Twitter, Facebook, and LinkedIn are beginning to change this status quo. Now, recruiters can easily identify qualified individuals for virtually any position with just a couple of clicks of a mouse. They can also utilize their existing network of contacts to identify potential candidates and begin to establish long-term relationships with them.

Advancements in social media utilization are starting to take greater hold, as prominent players in the recruitment software industry are beginning to incorporate these tools into their service offerings. Systems such as *Taleo* and *Jobs2web* now give recruiters the ability to automatically

post job openings directly on social sites as they post to their own job board. They can also monitor the social networks of their existing employees to uncover potential candidates. Similar to existing dashboard services, these systems now report on the success rates of each social platform in generating leads and obtaining the highest caliber of hire (Gale, 2013b).

As social media sites continue to grow in membership, a greater number of recruiters are utilizing them as a key component of their recruiting strategies. According to a 2012 survey, 92 percent of respondents currently plan on leveraging social media sites or plan to in the near future with 73% claiming to successfully hired through these tools. As their usage increases, recruiters have also noted substantial increases in candidate quality and reductions in time to hire (Jobvite.com, 2012). Of the major networking sites, LinkedIn currently remains the top site with 89% of participants noting that their social media hires came through the site (see figure 1 for additional details) (Jobvite.com, 2012).

Utilizing Employee Networks

Another exciting but equally daunting opportunity presented by social media is its power to give everyday people the forum to share their thoughts and interact with their peers on a global level. For a firm's top performers, this peer group often includes similarly talented individuals who share many of the same characteristics and levels of experience. Innovative recruiting departments today are starting to explore these networks by developing creative ways to tap into these employee networks by turning their employees into "social brand ambassadors". These ambassadors help promote the brand as an employer of choice throughout their online circles, offering positive and genuine impressions of the firm to their connections. Here, the pivotal first step is to identify key individuals who truly understand and exemplify the company's brand, are

social media savvy and embody the passion and personality necessary to heighten the company's employment image. Carefully constructed training can help these ambassadors tap into new markets, generate buzz in the company, and ultimately add a human element to the company's message (Terhark, 2013). As with any firm related communications, extreme caution must be taken in conducting such an initiative. Clear guidelines need to be established and communicated to ensure each employee message is "consistent, factually accurate and appropriate" (Terhark, 2013). Any required training must be completed and well understood by all employees before they are given the "go ahead" to begin "spreading the word". Activity should be frequently monitored to ensure that these guidelines are being upheld and pertinent feedback is gathered (Terhark, 2013). While these challenges are certainly intimidating, the benefits are limitless. Social media buzz can be extremely powerful in communicating an employer's message to the labor force. Bolstering that message with the candid posts and observations of the firm's top talent helps the company further advance its employment image in the minds of potential talent, providing them a realistic preview of life at the firm and the opportunities it presents. If well executed, these ambassadors can help the firm attract a seemingly unlimited pool of exceptional candidates with built in positive employer perceptions for future opportunities, reducing the time and financial resources required to source talent through conventional strategies.

Onboarding Technologies

Recent studies have found that approximately 80 percent of new hires decide whether or not they want to stay with a firm within the first 6 months of employment (Levin, 2008). Statistics like this truly exemplify the importance of a company's onboarding process. A well-constructed and implemented onboarding program is instrumental in reducing a new hire's time to contribute,

enhancing productivity, and improving employee satisfaction within the critical first weeks and months on the job. Advancements in online functionality have helped many firms redefine this process. Many onboarding applications now provide new hires personalized onboarding website links the very day that they accept a job offer. From here, new hires can begin to complete employment records, read through company policies, and start to evaluate their benefit options. While these attributes are extremely beneficial from an administrative perspective, today's Human Resource professionals are looking for more, namely to improve upon their existing practices by making them more engaging, interactive, and individualized (shrm.org, 2011a). Truly sophisticated applications go well beyond the standard onboarding requirements by providing new hires access to their new colleagues through social media profiles, employee blogs, and mentor chat rooms (Levin, 2008). These actions help build a strong employee/employer relationship by establishing workplace connections early on and give new hires a strong "lay of the land" that will be crucial in helping them succeed in their early days at the firm. From an employee's perspective, these actions demonstrate the firm's emphasis on employee indoctrination and inclusion as they serve as clear examples of management's desire to make each employee a valued member of the team as soon as possible.

Fostering Workplace Communication/Collaboration

Social media's usefulness to the employer/employee relationship can encompass so much more than just recruiting. As today's top firms continue to grow through geographical expansion while seeking to obtain synergy through their global resource structure, the goals of effective communication and collaboration have never been more vital. Observing the benefits social media has had on day to day life, companies such as General Electric are tapping into these

trends in order to reinvent the way their employees work and manage. In 2012, GE launched *GE Collab*, an internal social media platform designed specifically to transform the way their employees communicate. Designed to mimic the design and functionality of popular social sites, Collab offers employees calendar-sharing tools and blogging capabilities in order to share important information and best practices. Users are also able to follow their peers and utilize hash tags that enable easy search ability in discussion threads and pertinent documents (Gale, 2013a). While still only in its infancy, companies like GE are capitalizing on the prospects that a social media enabled workplace can bring. A recent Tower Watson study found that productivity jumps 41% for employees who utilize social media tools in their jobs (Gale, 2013a). With increased productivity, the collective value of social media technologies in the business world can be huge, potentially adding between \$900 billion and \$1.3 trillion in overall economic value, according to a McKinsey Global Institute survey (Goulart, 2007).

Potential economic windfalls such as this clearly demonstrate the value that social media utilization can bring to an organization. Recent SHRM surveys have found that business leaders are beginning to see these benefits from both a personnel and overall business perspective. 53% of HR professionals polled found that social media mechanisms serve as low cost alternatives to traditional means and 52% found them to be excellent tools in identifying passive applicants (see Figure 2) (Shrm.org, 2008). From a sales and marketing perspective, social media tools have been found to be effective in sharing external content, improving brand awareness, and engaging customers amongst other benefits (see Figure 3) (Shrm.org, 2011b).

Workforce Planning

In the past, Human Resource's involvement in the workforce planning process was often seen as a purely operational one, asked only to report on current headcount levels and update management on job openings and future projections. Rarely did this process include requesting Human Resource's input on employee skills, ability optimization and where they could be most effectively found. With the increasing focus on the global marketplace, businesses today are discovering the need to constantly reevaluate the knowledge, skills, and abilities required to develop and maintain a competitive advantage. In many cases, firms have asked Human Resources to spear-head these efforts. Luckily, advancements in data management and data mining are helping HR professionals heed this call. Here many organizations have begun to utilize their existing human resource information systems (HRIS) for more than simply housing standard employee data. By compiling data from multiple aspects of the employee management process, firms are beginning to create talent inventories that summarize each employee's skills, competencies, education, experience, training, and performance ratings (Philips, 2012). Once housed in separate modules for recruiting, performance management, and training needs, when combined, this information serves as a powerful tool in understanding an individual's total value to the firm.

More expansive systems can also include the employees' direct participation, allowing them to add other pertinent attributes to their records, such as languages spoken or additional education and experiences. If adequately developed and maintained, talent inventories can help quickly identify internal candidates whose characteristics match the organization's evolving needs. Additional integration with the recruiting function's applicant records can help to evaluate past

candidates as well. While only a limited amount of information may be available on past recruits and current data may not be readily accessible for previous employees, talent inventories can also serve as a valuable resource for determining a qualified pool of candidates if they cannot be found internally.

Sophisticated talent management systems are utilized across a wide variety of industries to address a growing number of needs. In the aftermath of Hurricane Katrina, IBM demonstrated the capabilities of its labor supply chain system for a client who needed to quickly identify 14 employees with series of unique skills and capabilities to support the recovery effort. Within 24 hours IBM was able to identify these individuals, helping their client get them into the field. Without this a system in place, such an effort could have taken weeks to accomplish (Harris, 2011). Similar systems have also been utilized by Google to screen job applicants more effectively. Ranked 6th in Forbes 2013 Best Place to Work For, Google generates approximately 100,000 applicants each month and were quick to find that more traditional screening methods did not adequately identify potential employee success. Taking a more systematic approach, Google created a database of current employee “attitudes, behaviors, personality, biographical information and job performance” and constructed a list of those qualities that best predicted optimal performance (Harris, 2011). This collection of current applicant data is then systematically matched against these predictors and an algorithm is applied to calculate each candidate’s likelihood of success. These efforts resulted in a significantly reduced candidate pool that matched the key attributes of a successful Google employee (Harris, 2011).

As demonstrated by Google and IBM’s success, talent inventory systems generate a deeper understanding of an individual’s knowledge, skills and abilities. This information gives

management powerful insight into their workforce and can help employers draw upon untapped capabilities previously unknown or deemed irrelevant. From an employee engagement perspective, talent inventory systems can serve as a strong indicator that management is committed to the further development of their staff and active evaluation of internal personnel for advancement opportunities. If properly designed and maintained, talent inventories can also lead to noticeable financial rewards for the organization. While initial startup cost may be significant if a robust system is implemented, these costs can be easily recouped over time as traditional recruiting processes (such as external job postings/advertisements) may be shortened or even eliminated if an appropriate pool of personnel can be identified from the database.

Training/Development

The evolution of workplace technologies coupled with the growing complexities and intricacies of today's business environment have made employee training and development all the more vital. Luckily, these very same technologies are making it easier for firms to ensure that their people have the right skills and knowledge wherever and whenever they are needed. A perfect example of effective utilization of electronic employee learning can be seen within Nike. Plagued with high turnover, Nike needed a way to ensure that their sales personnel were up to speed on the latest product offerings without devoting a great deal of capital or time per trainee. To tackle this issue, management developed a homegrown, e-learning platform called the Sports Knowledge Underground. Resembling "a subway map, with different stations representing different training themes" employees are invited to complete online modules on topics ranging from apparel technologies line, running products line, to customer skills and more (Marquez, 2005). With each module running three to seven minutes in length, these programs are highly

customizable in order to focus on the latest and greatest product offerings. Allowing for employee training to occur within the employee's store and in short bursts, associate training time and costs were significantly lowered while simultaneously increasing knowledge retention rates (Marquez, 2005).

Programs like Nike's are helping redefine how training needs are addressed. Today's employees are no longer shackled to the traditional classroom format, requiring a great deal of time and expense to complete. The customizable nature of many online programs allows employees a certain degree of flexibility and preference in the subject matter covered and in its complexity. Online programs also offer employees the ability to review course materials wherever they are and when their impact will be most beneficial. From an employer's perspective, electronic training programs offer the ability to ensure consistent application of training curriculum throughout their organization at a significantly reduced cost to more traditional programs. Comprehensive training programs also allow firms to easily track training progress companywide and determine training gaps among key employees and departments. Integrating this information with existing leadership development modules and talent inventory databases provides firms with a comprehensive overview of their employees' current skills and knowledge.

Retention

A recent study of domestic and international workers found that approximately 36% of respondents claimed to be in their current position longer than they would have liked due to the economy and would be looking for more lucrative work once conditions improved (Custers, 2013). While many firms don't have the financial resources to meet these employees' needs through salary increases across the board, they can seek to retain talent by utilizing existing HR

and payroll system capabilities more efficiently. Many compensation management programs offer employers the ability to compare salary and benefit packages internally, as well as against geographic, industry, and position specific job markets. This analysis can help businesses pinpoint specific employees or locations that need compensation increases when budgets allow. More comprehensive systems that interface with performance management and leadership development programs can also help identify significant differences between the compensation of their high performers and the market, allowing for increased attention to be placed on retention of top talent (Custers, 2013).

New HR system capabilities can also be influential in retaining talent through their ability to provide managers with real time customizable reports on their employees' total compensation packages. While benefit offerings typically comprise a sizable percentage of an employee's total compensation, the majority of employees tend to focus only on the monetary value presented on their paychecks. Through the use of benefit administration programs, employers can easily present their staff comprehensive total compensation statements, detailing the true value of their work beyond standard salary values (Custers, 2013). For top performers considering resignation, today's HR systems can also quickly calculate the value of unvested 401k contributions and stock options. With these values in hand, management can help dissuade top talent from leaving by presenting them with the full financial impact of their departure (Levin, 2008).

HR Responsibilities and Contributions

As previously detailed, the rise of information technology, specifically social media, has redefined many aspects of the employer/employee relationship. As overseers of this relationship, the HR function as a whole has experienced a similar evolution. HR was once seen as simply

employee transaction processors and custodians of personnel records. Relying solely on this antiquated perception, a valid argument could be made that the HR function added little real value to the organization. Today, through technological advancement, the time and effort required by Human Resource professionals to complete these activities have been drastically reduced or even eliminated altogether. These advancements liberate a significant portion of departmental resources that can be devoted to more value add objectives, allowing HR to truly act as a strategic partner to the business.

Similar to the advent of user-processed transactions, such as online banking and stock market trading, many routine HR transactions are now processed directly by the employee or their supervisor. Through Employee Self Service (ESS), many companies now require employees to amend their own personnel records for address changes, W4 elections, and employee biographies. Open benefit enrollment periods are also managed online, allowing employees to personally update their benefit elections through an online platform that facilitates a direct interface with the benefit provider. From a performance management standpoint, many HR departments have both employees and their managers update annual performance records online and sign off on performance improvement plans. Training and development is also provided and managed through online third party tools, reducing the need to physically hold training events and minimizing the strain of manual recordkeeping. With these process improvements in mind, it is easy to see their potential impact on the firm's HR function. Through electronic transmission of data, the administrative costs of employee transactions and the HR manpower required to complete them has been significantly reduced (shrm.org, 2007). Employee satisfaction ratings regarding these innovations have also been found to be fairly positive. This is especially true with benefit enrollment programs, where many employees enjoy the ability to access pertinent

benefit information at their leisure and obtain a greater level of understanding through integrated social media tools and videos (Roberts, 2011).

The efficiencies produced by the technological revolution have certainly “lightened the load” on most HR processes, reducing both administrative costs and resource requirements overtime. However, their greatest impact can be seen in what they have allowed Human Resource departments to do: better understand the composition of their workforce through analysis of their data. Big Data has become the topic du jour amongst HR leaders and executive management. The concept involves utilizing the copious amounts of previously collected HR data to perform deep meaningful analysis in order to help management make more proactive, evidence based decisions (Rafter, 2013). Not just limited to current personnel records, Big Data also includes the analysis of business results and trends, recruiting candidate profiles, competitor/industry /geographic trends and benchmarks. This quantitative approach closely resembles that of financial analysis but has the added benefit of being forward looking in nature, allowing decision makers to react to business needs quickly with a greater reliance placed on hard facts verses anecdotal experiences or “gut feelings”. To aid in this lofty effort, key HRIS services such as SAP’s *SuccessFactors* and Oracle’s *Taleo* are spending millions to bolster their product offering to provide their clientele greater analytic tools and data integration services (Rafter, 2013). This highly quantitative form of analysis has been adopted by many of the world’s largest firms, including PepsiCo who utilize their data to fine tune their leadership pipeline and align their workforce to proactively meet evolving business priorities. At FedEx, mathematical models are used to better assess the likely outcomes of personnel and operational decisions (Henneman, 2013). For Black Hills, an energy conglomerate, cultivating HR data allowed them to identify key individuals within their organization who were nearing retirement age and helped them

create a 5 year labor plan to adequately identify and train their successors (Rafter, 2013). The trend towards a more analytically minded HR is on the rise and is considered necessary for high performance firms who, according to recent studies, heavily utilize HR metrics and data cultivation both by HR leaders and their subordinates (Berman-Gorvine, 2013).

Clearly the future of Big Data mining is bright both in the value it can add to the business and its ability to affirm HR's role as a key strategic partner. Most advocates of the HR function champion the need for it to hold a key seat at the decision making table. When properly analyzed, Big Data helps ensure that this placement is not wasted, giving HR the knowledge necessary to support its agenda. In order to capitalize on this opportunity, many HR departments will be forced to rethink their own capabilities, skills and even mindsets. Impactful data analysis requires associates who can do more than just crunch numbers. Rather it necessitates those with an analytical mindset who can look beyond the values themselves and tell the story behind them (Henneman, 2013). For many, the utilization of data driven decisions also requires a fundamental shift in both HR and manager mindsets which favor "relationship based" decisions over hard facts. This is especially noticeable in hiring decisions during which someone's "hunch" is often the deciding factor (Berman-Gorvine, 2013). In order to be as effective as possible in this data driven world, HR will need to be flexible in order to change with it, adapting its structure and focus to proactively meet the business's goals.

Conclusion

The technological explosion of the last 20 years has fundamentally redefined many aspects of the employer/employee relationship. Workforce planning, recruitment, training and development, enterprise communication/collaboration and employee retention are a small sample of elements

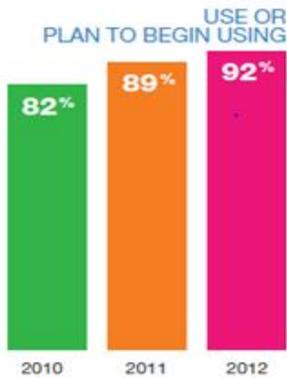
that have been forever altered by the information technology revolution. Savvy, forward thinking employers are going to considerable lengths and often to significant upfront costs to capitalize on the benefits of these new technologies. Specifically, from an HR perspective, the technological advancement of the 21st century has afforded them the ability to rise above their traditional role as simply an employment processor and record keeper. Today, senior management has called upon HR to become a more strategic business partner tasked with helping to develop and implement long-term strategies to ensure a productive mix of skills and capabilities are at hand to meet current and future needs. Here technology plays a key role in fulfilling this request by lightening administrative burdens and providing the tools necessary to carefully analyze and advantageously apply the data at HR's disposal. These innovations as well as the demands of an ever-changing business environment require today's HR organizations to be as flexible and adaptable as the very customers they serve. Today's HR also requires new skills and mindsets traditionally not found within the historical HR framework. With a new and strategic approach in place, world-class HR organizations will not only be able to tackle the complexities of today's computerized world but will be able to proactively take advantage of whatever comes next.

Appendix

Figure 1-Select survey results from Jobvite’s 2012 Social Recruiting Survey (Jobvite, 2012)

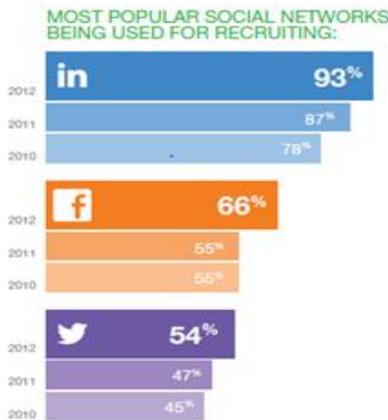
Q.

Do you or your company use social networks or social media to support your recruitment efforts?



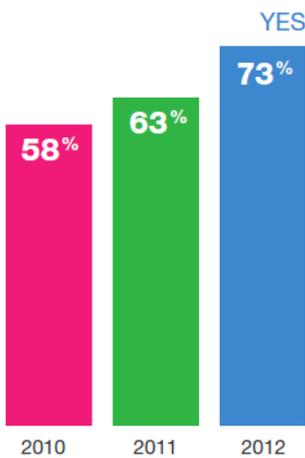
Q.

Which of the following social networks or social media do you or your company use, or plan to use, for recruiting?



Q.

Have you or your company successfully hired a candidate who was identified or introduced through a social network or social media?



Q.

Since implementing social recruiting, how have the below changed?

	INCREASE	DECREASE	STAYED THE SAME
TIME TO HIRE	14%	↓ 20%	38%
CANDIDATE QUANTITY	↑ 49%	3%	24%
CANDIDATE QUALITY	↑ 43%	3%	30%
EMPLOYEE REFERRALS	↑ 31%	2%	38%

Figure 2-Survey results from a 2008 SHRM poll regarding the benefits of social networking in recruiting (Shrm.org, 2008)

Why is your organization using or planning to use social networking sites more now than before?	
Less expensive than other methods of screening/ recruiting applicants.	53%
Able to recruit passive applicant's which might not otherwise apply or be contacted with your organization	52%
Able to target applicants according to specific criterion, e.g. job level, skills, geographic region	46%
Results in more qualified applicants relative to the amount of time and effort invested	37%
Able to obtain more information about an applicant than would be provided by just a resume, cover letter, or CV	36%
To increase employer brand, recognition and to create an online community focused on the organization	36%
Allows for potential applicants to easily contact your organization about employment	35%
Results in a large quantity of applicants relative to the amount of time and effort invested	30%
Able to assess whether the applicant is a good fit with the organization before bringing them in for an on-site interview	27%
Able to assess the applicant's work related potential or performance before bringing them in for an on-site interview	20%
Able to easily verify information from an applicant's resume, cover letter or CV	10%
Other	3%

Figure 3-2012 SHRM survey results regarding the operational and financial benefits of social media utilization (Shrm.org, 2011b)

Over the last 12 months, how effective were your organization's social media efforts as a mechanism for the following?	Very effective	Somewhat effective	Neither effective nor ineffective	Somewhat ineffective	Very Ineffective
Share content	19%	48%	25%	5%	3%
Improve awareness of brand	16%	54%	21%	6%	3%
Increase website traffic	16%	53%	23%	4%	3%
Engage with customers	15%	57%	18%	8%	3%
Grow your e-mail marketing list	14%	42%	34%	6%	4%
Improve reputation of brand	9%	49%	35%	4%	3%
Provide product feedback	9%	41%	40%	7%	3%
Increase the quantity of business leads	7%	35%	49%	5%	4%
Improve customer service	7%	33%	53%	3%	3%
Improve search engine rankings	7%	44%	41%	5%	3%
Improve customer satisfaction	6%	37%	50%	3%	3%
Increase quality of business leads	5%	31%	55%	4%	5%
Increase revenue	5%	26%	57%	7%	6%
Decrease marketing expenses	4%	31%	51%	6%	7%

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