2019 NORTH AMERICA MERCER/GARTNER IT JOBS AND SKILLS SURVEY: BUILDING THE IT WORKFORCE OF THE FUTURE

REPORT
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1. OVERVIEW

About the survey

Mercer and Gartner are pleased to present the results from the 2019 North America Mercer/Gartner IT Job and Skills Survey: Building the IT Workforce of the Future. This survey was conducted by Mercer and Gartner, Inc. and covers issues around the recruitment and retention of jobs and skills in Information Technology (IT) functions, budgets, and diversity and inclusion practices related to the IT workforce. The study and understanding of trends of these practices is critical to the success of the IT organization.

Survey participants completed an Excel questionnaire and provided input to questions in areas such as difficult to recruit IT jobs and skills, new and emerging IT jobs and skills of the future, turnover rates, sign-on bonuses, skill premiums, retention bonuses, salary increase and training budgets, gender and age profiles, and strategies/practices implemented to improve diversity and inclusion. As shown in the table below, 564 organizations from Canada and the United States submitted data for the survey this year. See the Appendix, starting on page 144, for a general profile of the participating organizations and their IT functions.

### 2019 Survey profile

<table>
<thead>
<tr>
<th></th>
<th>North America</th>
<th>Canada</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizations Participating in the Survey</td>
<td>564</td>
<td>145</td>
<td>419</td>
</tr>
<tr>
<td>Total Number of Full-Time Employees in the Organization (Median)</td>
<td>1,400</td>
<td>550</td>
<td>1,825</td>
</tr>
<tr>
<td>Total Number of Full-Time IT Employees in the Organization (Median)</td>
<td>68</td>
<td>35</td>
<td>76</td>
</tr>
<tr>
<td>FY’19 IT Budget $USD 000s (Median)</td>
<td>11,581</td>
<td>5,264</td>
<td>22,600</td>
</tr>
</tbody>
</table>

Note: Data for this survey is effective as of March 1, 2019.

If you have questions

If you have questions regarding the survey or the report, call or email us at 800 333 3070 or surveys@mercer.com.

Confidentiality

To ensure the confidentiality of all data, a minimum number of observations are required in order for statistics to be displayed. Three organizations must report at least three observations for a variable in order for the mean to be displayed. Four organizations and four observations are required to display the median. Five organizations reporting at least five observations are required to display 25th and 75th percentiles. A “--” indicates there is insufficient data for analyses.

Human Resource (HR) professionals who work regularly with surveys are aware of the variance that may exist in survey data. Data may fluctuate slightly from year-to-year due to changes in the participant base. It is also important to note that within a sample, a significant amount of data may be reported by one organization. It is also possible for data to change drastically from year to year due to industry-related factors and economic conditions.
Mercer and Gartner are providing this survey information to their clients to permit them to make independent decisions regarding salaries and benefits. Because the exchange of salary and benefit information among competitors may be construed in certain circumstances as a means to facilitate an antitrust violation, Mercer has taken appropriate steps in collecting and disseminating this information in order to avoid such perceptions.

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About the report

This report provides results overall and segmented by location and industry super sector; year-over-year analyses are included, where appropriate. This report also includes expert commentary from Gartner.

All dollar amounts are provided in US dollars, unless noted otherwise. Values reported in Canadian dollars were converted to US dollars, effective March 1, 2019, for any company who participated via a Canadian survey questionnaire.

The report is divided into the sections described below.

Overview: This section provides general information about the survey and methodology, and includes an executive summary.

Voluntary employee turnover of the IT workforce: This section provides analyses of IT employee voluntary turnover rates.

Recruitment and retention of IT jobs: This section provides information on the difficult to hire jobs and the time-to-fill metrics, along with the prevalence of sign-on bonus and retention bonus programs. It also provides information on IT organizations’ future hiring plans, new/emerging jobs to be added to the organization by 2021 or later, and the most effective ways to identify and recruit talent for these challenging roles.

Recruitment and retention of IT skills: This section provides information on skills that are in demand, difficulty in recruiting talent for those “hot” IT skills, and the prevalence of skill premium pay and retention bonus programs. It also provides information on future plans for retaining IT skills and new/emerging skills to be added to the organization by 2021 or later.

IT function overall budget, workforce compensation and training budgets and reskilling practices: This section provides statistics on annual overall IT budgets, compensation budgets, actual and projected salary increase budgets, and training budgets for the IT workforce. It also provides information on the needs and approaches used for upskilling/reskilling the current IT workforce.

IT on-call pay and remote working practices: This section provides information on compensating IT employees for being on-call and also addresses remote working programs for the IT workforce.

Diversity and inclusion of the IT workforce: This section provides analyses on the IT workforce profile by gender and age. It also reports the strategies/practices companies have implemented for improving diversity and inclusion of the IT workforce.

Current/future IT workforce models: This section provides trending data on the utilization of Artificial Intelligence (AI) to augment the current and future IT workforce.
Appendix: This section provides information that helps categorize and analyze responses to the survey based on the characteristics of the organizations responding. This ensures comparative information that is most useful to your organization.

Attachments: Select the Attachments icon from the left menu panel to access a list of this year’s participants.

Executive summary

The 2019 Gartner CEO and Senior Business Executive Survey results indicate that 82% of CEOs (versus 62% last year) have a management initiative or transformation program underway to make their companies more digital. As businesses continue their digital transformation journeys, it will inevitably lead to not only changes in their products and services but also their business models. As shown in this year’s Gartner CEO survey results, 86% of CEOs expect some degree of change in their operating models and business models during the next three years. These changes go to the heart of how the enterprise operates and makes money or achieves its mission, which will require evolving and developing necessary organizational capabilities to effectively meet CEOs’ digital business ambitions.

Talent is key to digital business success. As businesses transform their business models in response to digital disruptions, the demand for new digital expertise expands, and the competition for IT talent continues to intensify. With the technology unemployment rates remaining low in Canada (2.6% in 2018 versus 5.8% overall unemployment rate) and the US (1.3% in May 2019 versus 3.6% overall unemployment rate), CIOs and HR leaders looking to build a digital-ready workforce must rethink how they recruit, develop and retain key skills and talent needed to successfully execute their digital business strategy. This makes closing the gaps in talent management more important than ever. The emerging operating principles of talent management in the digital era call for continuous evaluations and redefinitions of strategies, processes and solutions to build the workforce of the future. It is therefore not surprising to see from the 2019 Gartner CEO and Senior Business Executive Survey results that CEOs mentioning talent management, technology enablement and digitalization the top organizational competencies they most need to develop or improve to excel in delivering on their business strategy.

This presents a great opportunity for CIOs to form close partnership with HR leaders to renew their organizational strategies and reinvent talent management into a more adaptable and technology-driven discipline that bridges the growing talent gaps and keeps pace with continuous change in digital business. By working together, they can build on each other’s strengths to address CEO’s talent management concerns. To be well-positioned to compete for top talent, and to build the IT workforce of the future, CIOs must truly make talent and skills their top strategic priorities, integrating IT workforce planning with digital strategy planning. They will need to closely monitor skill supply and demand conditions in the market, so that appropriate recruitment and retention strategies can be implemented to ensure the right-skilled IT workforce and organizational competencies are in place to transform the business.

This report provides CIOs and HR leaders with the data they need to gain an understanding of the current state of the IT job market and to assess gaps in workforce capabilities and talent management practices. Below are the highlights from this year’s survey results.

Voluntary employee turnover of the IT workforce

- For the Canadian market, the median employee-initiated turnover (with retirements) increased from 5.2% reported a year ago (03/01/2017 – 02/28/2018) to 7.1% over the last 12-month period (03/01/2018 – 02/28/2019). The voluntary turnover rate after excluding retirements was 4.0% for this survey period.

- In the US, the median IT employee voluntary turnover rate (with retirements) increased from 7.0% to 8.2% for the same period a year ago (03/01/2017 – 02/28/2018) and over the last 12-month period (03/01/2018 – 02/28/2019). The voluntary turnover rate after excluding retirements was 5.9% for this survey period.
Recruitment and retention of IT jobs

- Across all jobs surveyed, the total average number of months to fill jobs in North America remains at 3.3 months from a year ago (03/01/2017 – 02/28/2018) and during this survey period (03/01/2018 – 02/28/2019).

- In Canada, the average number of months to fill selected IT jobs decreased from 3.5 months a year ago (03/01/2017 – 02/28/2018) to 3.3 months over the last 12 months (03/01/2018 – 02/28/2019). The top jobs rated as very difficult to recruit are listed below in rank order:
  - Enterprise Architecture - Specialist Professional
  - IT Solution Architecture (High Tech) - Specialist Professional
  - Business Intelligence (BI) Data Analysis - Specialist Professional
  - Cloud Computing Architecture - Experienced Professional
  - Enterprise Data Architecture - Specialist Professional
  - Head of Digital Technology
  - Data Science/Big Data Mining - Senior Professional
  - Database Administration: Oracle - Experienced Professional
  - General IT Mobile Applications Development - Experienced Professional
  - Head of Data Analytics/Warehousing & Business Intelligence
  - Information Systems Security - Experienced Professional
  - General IT Infrastructure Systems Administration - Experienced Professional

- In the US, the overall average number of months to fill selected IT jobs increased from 3.3 months from a year ago (03/01/2017 – 02/28/2018) to 3.4 months over the last 12 months (03/01/2018 – 02/28/2019). The top jobs rated as very difficult to recruit are listed below in rank order:
  - Data Science/Big Data Mining - Senior Professional
  - Cloud Computing Architecture - Experienced Professional
  - Information Systems Security - Experienced Professional
  - Information Systems Security – Manager
  - Enterprise Architecture - Specialist Professional
  - Enterprise Data Architecture - Specialist Professional
  - IT Solution Architecture (High Tech) - Specialist Professional
  - Business Intelligence (BI) Data Analysis - Specialist Professional
The majority of respondents offer sign-on bonuses when recruiting talent with scarce skills or recruiting for difficult to hire positions. Some might also offer sign-on bonuses to:

- Recruit college graduates or high-potential candidates.
- Cover new hire relocation/moving costs.
- Off-set healthcare costs to bridge between insurance plans or compensate for lower benefits package offering.
- Compensate for any loss in annual bonus opportunity.
- Buy out unvested equity.
- Negotiate with a candidate who wants a higher pay package without increasing the base salary portion.
- Have a competitive compensation package in the market.
- Match a candidate’s competing offer.

Bonus amounts vary by job level from a median amount of USD $5,000 for the individual contributor level to USD $10,000 for the management level, and USD $19,500 for the senior IT leadership level.

Across North America, a small percentage of organizations reported offering retention bonuses over the last 12 months (03/01/2018 – 02/28/2019). Bonus amounts vary by job level from a median amount of USD $6,580 for the individual contributor level to USD $10,000 for the management level and USD $20,000 for the senior IT leadership level.

Across North America, the top approaches, sources, or channels that organizations find most effective in identifying and recruiting talent for difficult to recruit jobs are:

- LinkedIn (Corporate Page)
- Employee Referrals
- Corporate Website’s Career Page

**Recruitment and retention of IT skills**

In Canada, the top skills rated as very difficult to recruit are:

- Architecture (e.g., Application, Data, Infrastructure, Security)
- Information Security (e.g., Cyber Security, Forensics)
- Artificial Intelligence and Advanced Machine Learning (e.g., Deep Learning, Neural Networks, Natural Language Processing (NLP))
- Agile Methods/Practices (e.g., DevOps, Kanban, Lean, Scrum)
- Business Intelligence/Information Analytics (e.g., Predictive Analytics)
- Hadoop (e.g., HBase, HDFS, MapReduce)
- Customer Relationship Management (CRM) (e.g., Salesforce.com)
- SAP (Application Development, Basis Infrastructure, Production Services)
- User Experience Design