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**DEMAND, SKILLS AND TRAINING
FOR DATA ANALYST**

HRDF INDUSTRY TRAINING INTELLIGENCE REPORT



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In Malaysia, by 2020 there would be a need for at least 20,000 data professionals and 2,000 data scientists. The job demand as well as salary for qualified Data Analyst in Malaysia is comparatively high. (Source: Multimedia Development Corporation (MDeC), 2017)

LinkedIn Emerging Jobs Report, "The demand for digital talent is fast growing, but is comparatively low in supply".



JobStreet.com Job Outlook 2019 Report, "96% of employers through a survey perceived that the talent landscape will change with a shift to the digital economy".



Deloitte 2019 Global Human Capital Trends Report, "The jobs of today are more machine-powered and data driven than in the past".

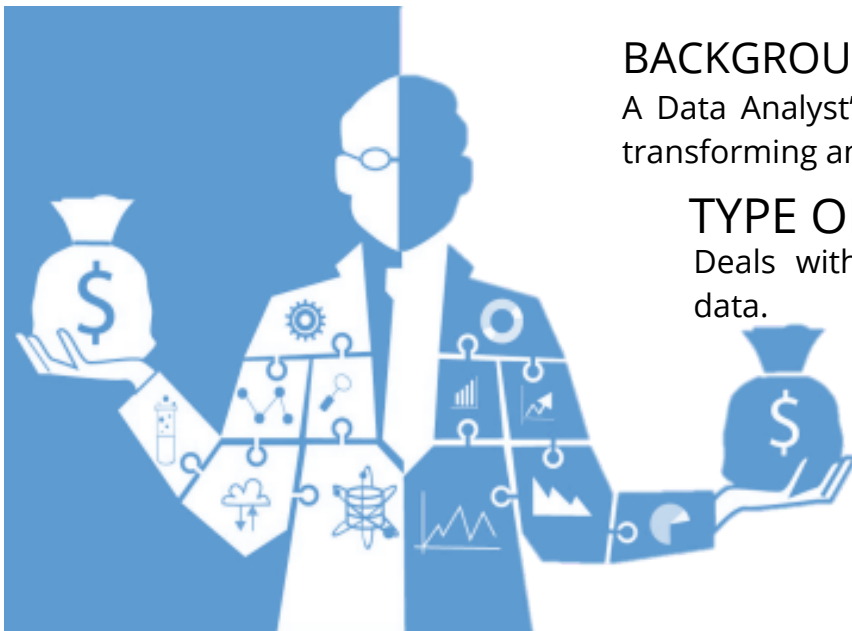


Boston Consulting Group (BCG) Decoding Digital Talent Report, "More than two-thirds of digital experts would relocate for work"..



The findings above acknowledge that "data and analytics" will be the key drivers of market competition in the coming years. This suggests 'data analyst will play a key role in data science'. The growing need for data professionals is mainly caused by increase data availability which in turn is increasingly recognised as "the new oil" for business strategies and in data driven decision making. This article will enumerate the demand, skills required by the employers looking for data analyst based on findings from job advertisements in job portals. All information gathered in this report were extracted from job portals employing a data scraping method. All data are the latest as of February 2020.

WHAT DOES A DATA ANALYST DO?



BACKGROUND

A Data Analyst's role is related to data cleaning, transforming and drawing inferences from data.

TYPE OF DATA

Deals with structured and unstructured data.

COMMON TOOLS

Microsoft Excel, SQL, R (in some cases), Tableau.

SOFT SKILLS

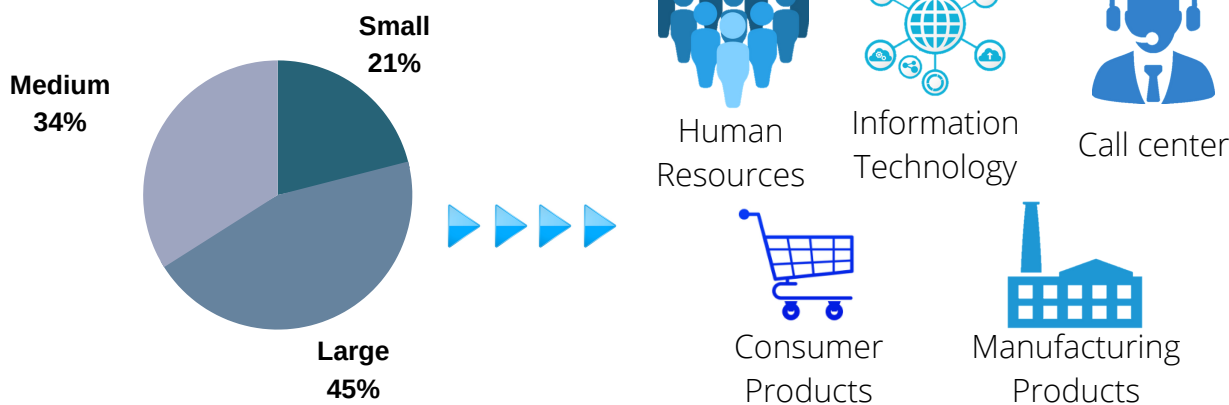
Required problem solving skills and knowledge of conducting research.

WHERE ARE THE JOBS?

Based on current data, the demand for this profession is not limited to the Information Technology sector only. There are other industries (e.g. manufacturing / production, human resources, call centre and consumer products) that are looking to hire data analyst for decision making.

The data also shows that there are 54% of Small and Medium Enterprises (SMEs), likely to hire data analyst at their company while another 45% of jobs are offered by large companies. This indicates that job opportunities for data analyst are not as niche as some would expect.

BOTH SMES AND LARGE COMPANIES NEED DATA ANALYSIS



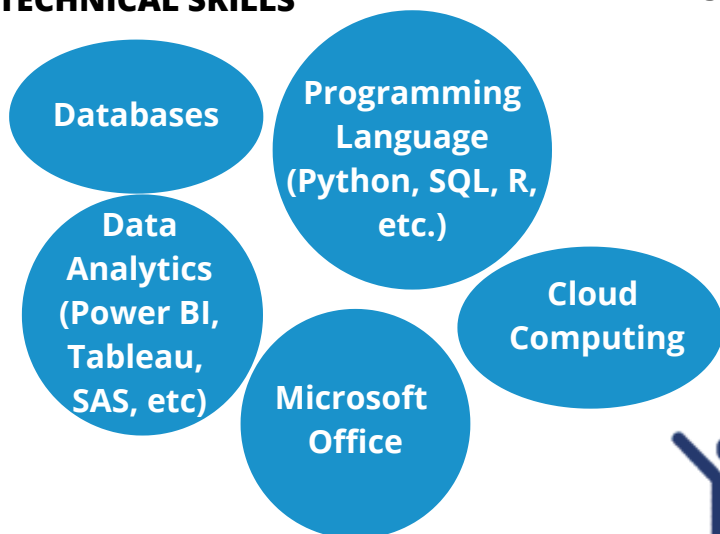
The insights provided by data analytical tools help in knowing the needs of customers better. As such, Customer Analytics and Experience Analytics are the top tools for data analysis. These initiatives help in developing newer and better products.

With huge interest and demand for data analyst, companies are willing to pay attractive incentives and packages for qualified professionals. Based on the job advertisement, average salaries of data analyst professionals are listed as below:

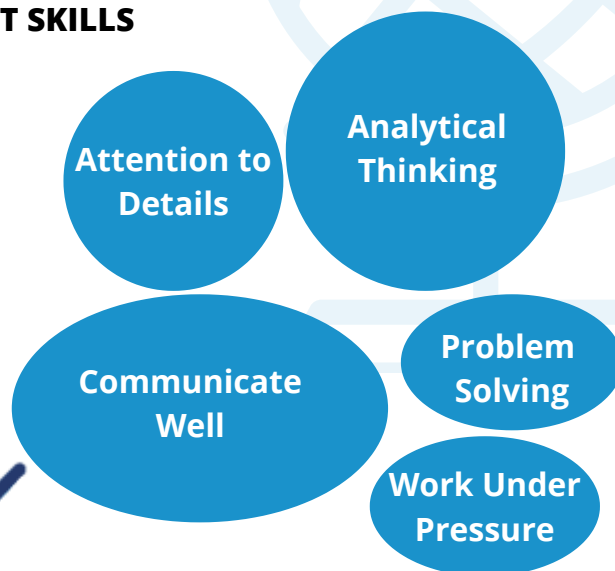


WHAT SKILLS IN DEMAND REQUIRED BY EMPLOYERS?

TECHNICAL SKILLS



SOFT SKILLS



The size of each skill bubble corresponds to the number of job postings requiring that particular skill.



COMMON TOOLS USED

SQL

SQL is an acronym for Structured Query Language. The finding shows that SQL has been listed most by employers. SQL is used for working with relational databases.



Python shows up in about 30% of listings. It's a very popular free open source programming language that works with data, websites and scripting.



R also shows up in 20% of listings. It's a popular free open source language for statistics.



In terms of data analytic tools, Tableau shows up as the most required tool needed by employers. Its drag-and-drop business intelligence software makes it easy to create visualisations and dashboards.



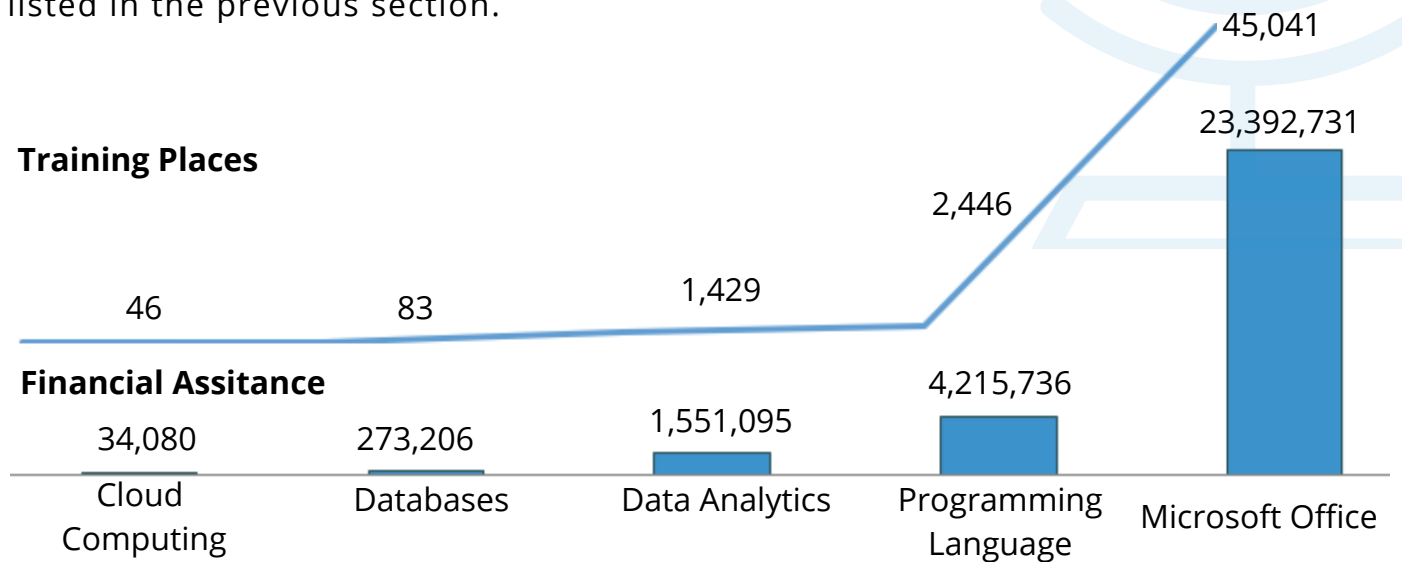
Power BI is almost as common as Tableau where 32% of employers required this tool. Power BI is an analytics reporting tool that helps organisations bring together disparate data sets into reporting dashboards.








SAS is ranked as the third most command-driven software package used for statistical analysis and data visualisation.

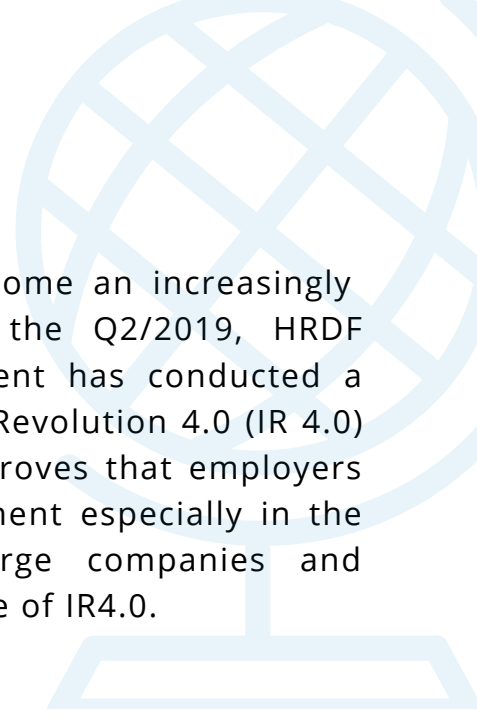
HOW DOES HRDF SUPPORT TRAINING RELATED TO DATA ANALYST?

In this section, all information provided are based on HRDF internal data for the year 2019 through training programme analysis by referring to technical skills listed in the previous section.



Based on HRDF internal data in 2019, 5% of approved training places were related to data analyst technical skills training. Among the examples of those training are:

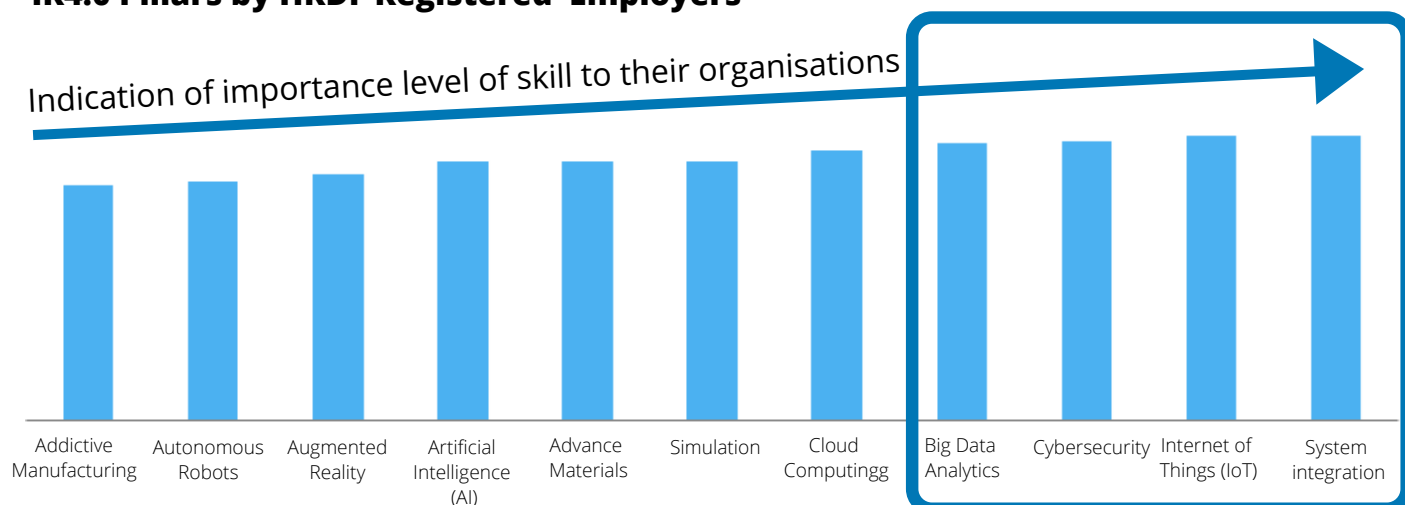
<ul style="list-style-type: none"> • Cloud Computing • RM883/day • Non-Certification 	<div style="background-color: #0070c0; color: white; padding: 5px; border-radius: 5px;">Cloud Computing</div>	 <ul style="list-style-type: none"> • ALIBABA Cloud Computing Boot camp (ACCB) • RM1,300/day • Professional Certification
<ul style="list-style-type: none"> • Exadata Database Machine: 12c Administration Workshop Ed 2 • RM1,300/day • Non-Certification 	<div style="background-color: #0070c0; color: white; padding: 5px; border-radius: 5px;">Databases</div>	 <ul style="list-style-type: none"> • Oracle Database 12c: Performance Management and Tuning • RM1,648/day • Professional Certification
<ul style="list-style-type: none"> • Full Tableau Training • RM848/day • Non-Certification 	<div style="background-color: #0070c0; color: white; padding: 5px; border-radius: 5px;">Data Analytics</div>	 <ul style="list-style-type: none"> • Analysing Data with Power BI • RM936/day • Professional Certification
<ul style="list-style-type: none"> • C++ Programming for Engineers • RM1,208/day • Non-Certification 	<div style="background-color: #0070c0; color: white; padding: 5px; border-radius: 5px;">Programming Language</div>	 <ul style="list-style-type: none"> • Neuro - Linguistic Programming (NLP) Certification Courses (Practitioner Level) • RM954/day • Professional Certification
<ul style="list-style-type: none"> • Advanced Microsoft Excel Functions & Formulas • RM636/day • Non-Certification 	<div style="background-color: #0070c0; color: white; padding: 5px; border-radius: 5px;">Microsoft Office</div>	 <ul style="list-style-type: none"> • Finance Modelling In Excel • RM1,300/day • Professional Certification



STRATEGIC INITIATIVES BY HRDF

As data driven strategies take hold, data analyst will become an increasingly important point in competitive differentiation. During the Q2/2019, HRDF through its Research and Development (R&D) Department has conducted a survey of HRDF registered employers' needs for Industrial Revolution 4.0 (IR 4.0) related training where big data is concerned. The result proves that employers need the IR 4.0 training for their organisational development especially in the Manufacturing Sector. In terms of company size, large companies and multinational groups are already considering the importance of IR4.0.

IR4.0 Pillars by HRDF Registered Employers



The companies that took part in this survey viewed the wider scope of integrating their system and preferences into the development and production process as a major new opportunity through IR4.0. Whereas, a few other companies preferred to apply Internet of Things (IoT) and Cybersecurity as well as enhance Big Data Analytics in their organisation.

INDUSTRIAL REVOLUTION 4 (IREV4) PROGRAMME

In response to the feedback received from registered employers, HRDF has developed the Industrial Revolution 4.0 (IREV 4.0) programme. It is expected to be launched by quarter 2 of year 2020. The scheme's objectives are as below:

1

To provide opportunities for Malaysian employees to upgrade their skills. They will participate in training of high value added industry based training to enhance their career development and earn higher income.

2

To provide a highly skilled workforce based on the five (5) pillars of IR4.0 to employers who will enable them to explore business opportunities in higher value chains through skill-enhancing programmes which focus on knowledge intensive activities encompassing high-value and high-tech products to continuously compete the global market.