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MEASURING SUCCESS

THE IMPACT OF THE INTERACTIVE DIGITAL MEDIA SECTOR IN ONTARIO

PREPARED FOR:

interactive ontario

PREPARED BY:

Nordicity

About Interactive Ontario

Interactive Ontario (IO) is a not-for-profit industry trade association committed to the growth of the Ontario interactive digital media (IDM) industry.

Interactive Ontario fosters growth in the IDM industry in Ontario through government advocacy, events, trade missions, research reports, connections to business development opportunities and meaningful partnerships with complementary organizations. IO hosts over 30 events each year, providing knowledge sharing and networking in this quickly evolving industry.

IO represents a diverse group of members ranging from SMEs (small & medium enterprises) to large international corporations. They produce innovative experiences in a variety of subsectors including video games, eLearning, multi-platform storytelling, mobile apps, augmented and virtual reality and more.

Project Partners

Support for this project was provided by Ontario Creates, the Canada Media Fund, the City of Hamilton, the City of Toronto, the Canadian Media Producers Association (CMPA), Humber College, RBC, Toronto Global, Ubisoft, Welch LLP and Ryerson University. We thank them for making this study possible.

Disclaimer

Funding for this study was provided by the organizations listed above. Any opinions, findings, conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of the organizations or government agencies that provided funding for this project. No organization, government, or government agency is in any way bound by the recommendations contained in this document.

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Profile of the IDM Industry in Ontario

- IDM companies are defined as companies that:
  - Create digital content and environments that provide users with a rich interactive experience – either with content itself or with other users; or
  - Provide services that directly enable these products/services.
- Ontario's IDM companies generated **$1.66 billion** of **revenue** in 2017 on **expenditure** of **$1.40 billion**, for an implied profit margin of 31%.
- Over 90% of the revenue earned by Ontario's IDM companies on average is export revenue; United States (37%) and Continental Europe (34%) are the largest markets
- Ontario IDM companies anticipate overall revenue growth of 12% in the 2018 fiscal year.
- The IDM industry in Ontario consists of 929 companies, almost half (49%) of which employ five or fewer people.

Employment in Ontario's IDM Industry

- IDM companies directly **employ 12,300 FTEs**, and of these, 8,680 FTEs specifically perform IDM-related activities.
- Average salary in the industry is $74,000, which has increased by 41% since 2015.
- The average age of IDM workers is 31, and 83% of companies reported an average age of under 40.
- The workforce employed by Ontario's IDM companies is 27% female, up slightly from 25% in 2015.
- IDM companies in Ontario expect to **hire 2,770 FTEs** in the **next 12 months**.

Economic impact of the IDM industry in Ontario

- Ontario's IDM industry generated a grand total of **$1.77 billion in GDP impacts** in 2017. Of this amount, $1.21 billion in GDP was driven by IDM-related activities.
- Ontario's IDM industry contributed a total of **18,070 FTEs** in direct, indirect and induced employment
- Ontario's IDM industry contributed **$544.7 million in taxes** (across all levels of government), of which $377.4 million was related to IDM activities.

Challenges faced by the IDM industry in Ontario

- Companies are concerned about the value of the Canadian Dollar and the immigration system, followed by supply of skilled labour in Ontario
- Companies are facing challenges in finding skilled labour within the province but are also finding it difficult to hire foreign workers to meet demand
- Limiting factors as identified by the respondents reflect the global nature of this industry in Ontario

1. Introduction

1.1 Mandate

Interactive Ontario (IO) engaged Nordicity to undertake a study to better understand the companies that make up the Ontario interactive digital media (IDM) industry – and the impact those companies have in Ontario. This study builds on the previous iteration of *Measuring Success: The Impact of the Interactive Digital Media Sector in Ontario,* based on data from the 2015 fiscal year and released in 2017. This edition of the report is based on data from the 2017 fiscal year.

Comparison with the 2015 study

Where relevant, this report includes comparisons to the results reported in the *Measuring Success: The Impact of the Interactive Digital Media Sector in Ontario* report released in 2017. The 2017 report was based on the 2015 fiscal year. As such, the comparisons will state the fiscal year corresponding to the data, and not the year in which the report was developed.

1.2 About this Report

This report is organized into a series of sections that present thematically organized information about the IDM industry in Ontario.

These sections are as follows:

- **Section 2: Profile of IDM Companies in Ontario** provides an overview of IDM companies in Ontario, including age, business structure and ownership.
- **Section 3: Company Output: IDM Products and Services Made in Ontario** looks at the types of experiences that IDM companies develop, the platforms on which these experiences are presented, and the target audiences for these products.
- **Section 4: Working in Ontario's IDM Industry** profiles the workforce, highlighting the distribution of employees across firms of various sizes, the seniority of the workforce, salaries, educational attainment, age, and gender.
- **Section 5: The Finances of Ontario's IDM Industry** offers an assessment of industry size, its sources of revenue, expenditures, and the implied profit margin, based on these data.
- **Section 6: Impacts of the IDM Industry in Ontario** presents economic impact assessments for the companies that comprise the IDM industry and a separate assessment for their IDM-related activities, followed by a discussion of other impacts that these companies have on the local economy and community.
- **Section 7: Challenges** addresses the factors limiting growth as identified by IDM companies in Ontario.
- **Section 8: Conclusions and Key Findings** presents a summary of key points from the previous sections.

Glossary of Terms

n-values: The number of respondents to a survey question, which is often used in the data analysis related to that question.

IDM Revenue/Expenses: The portion of a company's overall revenue or expenses (including labour expenses) derived from or devoted to IDM product and/or services. The inclusion of this measurement recognizes that IDM work may constitute only some of what a given respondent company creates.

Direct GDP: The economic activity attributed directly by the IDM industry.

Indirect GDP: The increased economic activity generated by business sectors broadly associated with the IDM industry in Canada—i.e., sectors that are supplying goods and services to companies in the industry.

Induced GDP: The increase in economic activity attributable to re-spending of labour income within an economy by workers at the direct and indirect levels. In other words, people employed at the direct and indirect level take home salaries and re-inject that income into the economy through their day-to-day spending.

Direct labour income: Salaries and benefits paid to employees of IDM companies (whether or not they work on IDM products and/or services).

FTE: Full-time equivalent is a measure of employment that can mean, for example, that three part-time employees each working a third of a year make up 1 FTE.

Direct employment: Those people employed by an IDM company.

Indirect employment: Employment resulting from increase in economic activity that occurs when companies purchases goods and services from its suppliers. These purchases increase employment at the supplier companies and, in turn, increase demand for other upstream suppliers – i.e., the suppliers' suppliers.

Induced employment: Increase in employment that can be attributed to the re-spending of income by households that earned income at both the direct and indirect stages.

2. Profile of IDM Companies in Ontario

IDM companies in Ontario develop games, eLearning software and apps, but there are also newer categories such as VR arcades and artificial intelligence enabled products. This section provides context for the whole report and defines IDM companies. It also profiles the companies based on ownership, size and lines of business.

2.1 Defining an IDM Company

IDM companies are defined as companies that:

- Create digital content and environments that provide users with a rich interactive experience – either with content itself or with other users; or
- Provide services that directly enable these products/services.

Definition: Interactive Digital Media

Digital content and environments that provide users with a *rich interactive experience* – either with content itself or with other users; and services that directly (and exclusively) enable these products/services.

Interactive digital media is an umbrella term that includes video games, eLearning software, mobile apps, augmented and virtual reality, and other products and services that allow users to interact with digital content.

This study focuses on the economic footprint of companies that create, market or sell IDM products or services. Examples of companies included in and excluded from the study are shown in the table below. The types of companies included in this study is comparable to that used in the first edition of *Measuring Success*.

Table 1: Companies included in and excluded from the study

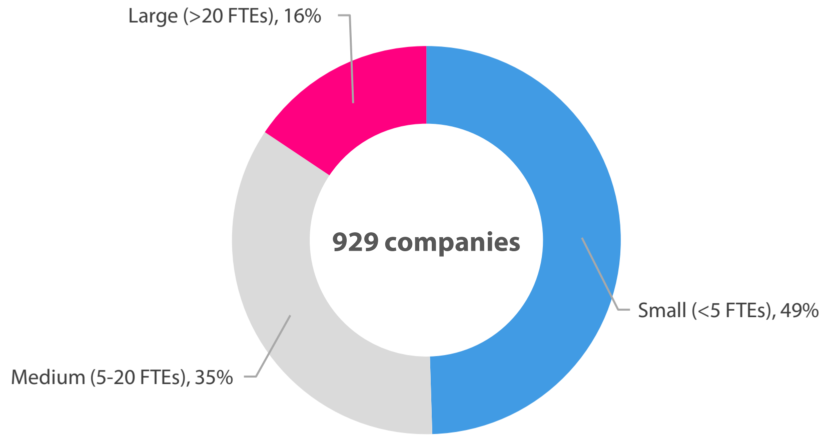
Companies included	Companies excluded
Games developers and publishers elearning software developers VR/AR/MR developers VR arcades* Mobile app developers Digital advertising firms Some web developers (that make rich interactive sites) Software developers servicing the above companies (e.g., with specialized software)	General software developers (e.g., productivity software) Animation and visual effects companies specializing in film and TV Linear audiovisual creators and distributors (e.g., TV producers) Some web developers (that do not make rich interactive sites)

* VR arcades were added to the companies included as they emerged in to the marketplace between the 2015 and 2017 studies.

2.2 IDM Companies in Ontario

In total, there are 929 IDM companies in Ontario.[1] As the figure below demonstrates, a large majority (84%) of these companies employ fewer than 20 people. In fact, almost half (49%) of these companies employ fewer than five people.

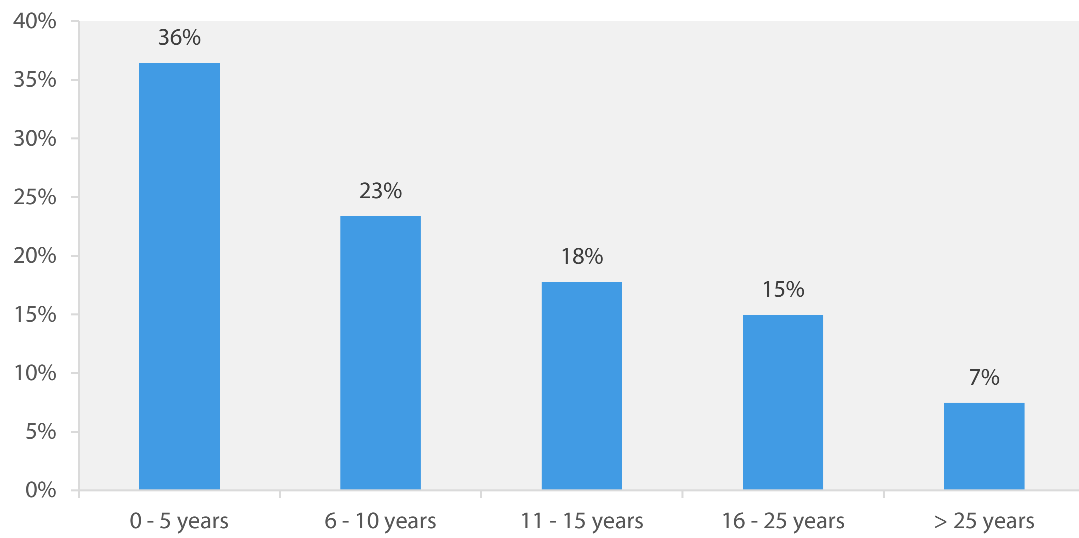
Figure 1: Breakdown of Ontario's IDM companies by size



n = 929
Source: Interactive Ontario, Nordicity

These companies are not only small (in size) but also relatively young. Indeed, more than one-third (36%) of the companies have been in operation for five years or less, as seen in the breakdown below. Over one-tenth (11%) of the companies started operations in 2017 and 2018, which suggests that opportunity for IDM is still growing. The average age of companies in the industry is 11 years.

Figure 2: Breakdown of Ontario's IDM companies by number of years in operation

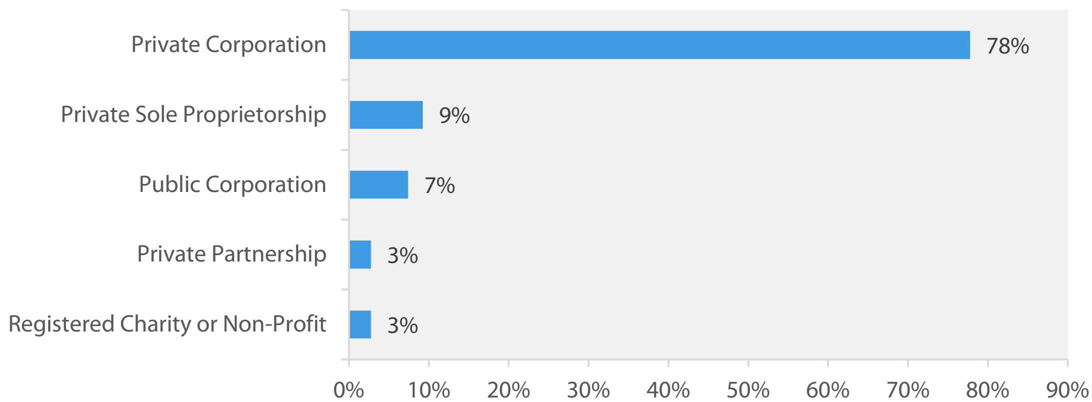


n = 107
Source: Survey of Ontario's Interactive Digital Media Industry 2018

[1] Inventory of IDM companies provided by Interactive Ontario and validated by Nordicity through desk research.

Moreover, 94% of these companies are Canadian-controlled and most (90%) of them are privately-owned. Only 7% of the companies in the industry are public corporations, although this share has grown since 2015 when it was 3%.

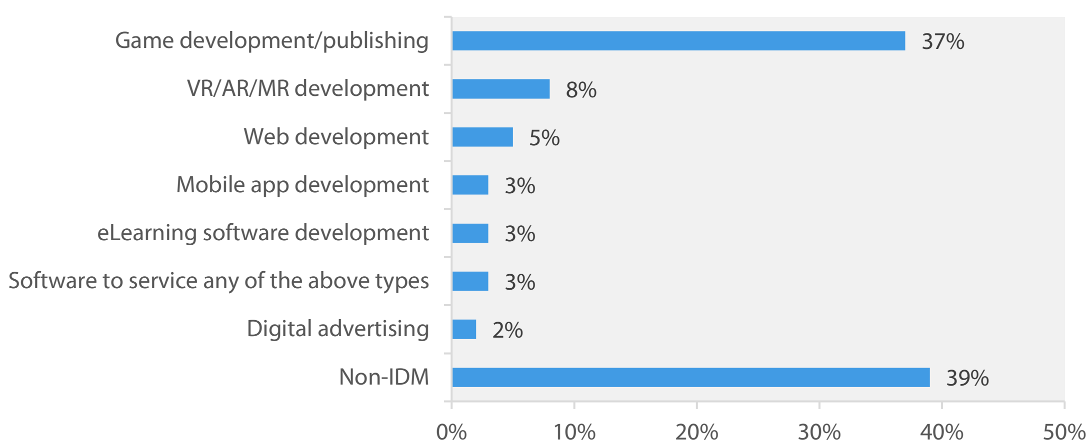
Figure 3: Ownership structures of Ontario's IDM companies



n = 107
Source: Survey of Ontario's Interactive Digital Media Industry 2018

Over one-third (37%) of the companies are primarily game development or publishing companies. The next most common is VR/AR/MR development with 8% of the companies reporting it as their principal line of business.

Figure 4: Principal line of business reported by Ontario's IDM companies



n = 100
Source: Survey of Ontario's Interactive Digital Media Industry 2018

While a majority of the companies are primarily IDM companies, nearly 40% of the companies reported a non-IDM activity as their principal line of business. Linear audiovisual content production constitutes a large portion (38%) of these “other” lines of business. These production companies likely create games or other interactive products to market their audiovisual content or to distribute their content across a variety of platforms. Other non-IDM lines of business include other digital media[2] (18%), education (13%), consulting (13%), etc.

Most of these companies (87%) operate out of rented premises, but a small minority (13%) own their premises which are on average 2,200 sq. ft in area. Realistically, these companies have little equity apart from the products and services they make.

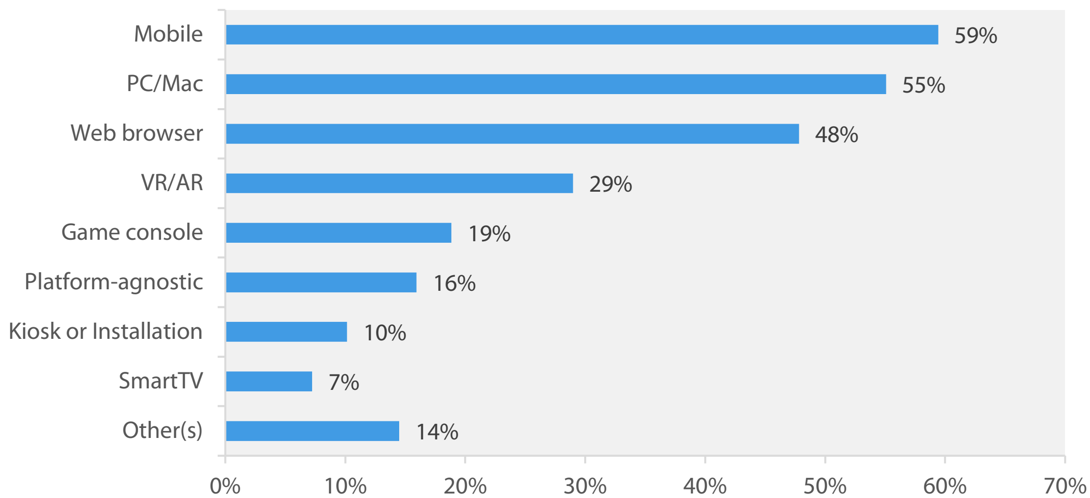
[2] "Other digital media" includes interactive videos, scripted and unscripted digital content, digital advertising, convergent digital media, etc.

3. Company Output: IDM Products and Services Made in Ontario

IDM companies in Ontario produce a wide variety of IDM products and services that are developed for mobile, PC/MAC and other platforms. This section describes the output of the IDM industry in terms of platforms, product genres and audiences.

Ontario's IDM companies are most likely to develop products or services for the mobile platform and the PC/MAC platform. More than half (59%) of the companies reported working on products for mobile platforms, although in 2015, a much larger percentage (90%) worked on products for the mobile platform. This shift is consistent with wider IDM industry trend away from mobile development, as that marketplace reaches saturation.[3]

Figure 5: Percentage of Ontario's IDM companies developing for IDM platforms

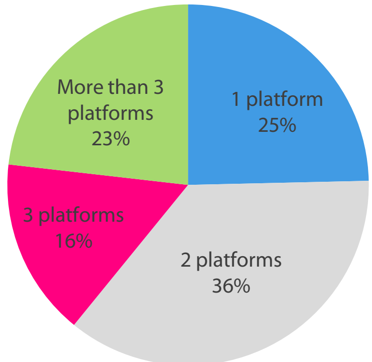


n = 67
Source: Survey of Ontario's Interactive Digital Media Industry 2018

The percentage of companies working on each platform listed in the figure above has declined since 2015. This decline suggests that companies are focusing on developing products for fewer platforms, rather than for every platform. This finding is also reflected in the decline in the portion of companies working on three or more platforms which changed from 69% in 2015 to 39% (3 platforms 16% + more than 3 platforms 23%) in 2017.

[3] Reflecting this trend, Newzoo lowered its market forecast for the global video games market, in part due to a saturated mobile marketplace with fewer innovative blockbuster titles, https://newzoo.com/insights/articles/newzoo-cuts-global-games-forecast-for-2018-to-134-9-billion/

Figure 6: Number of platforms Ontario's IDM companies develop for

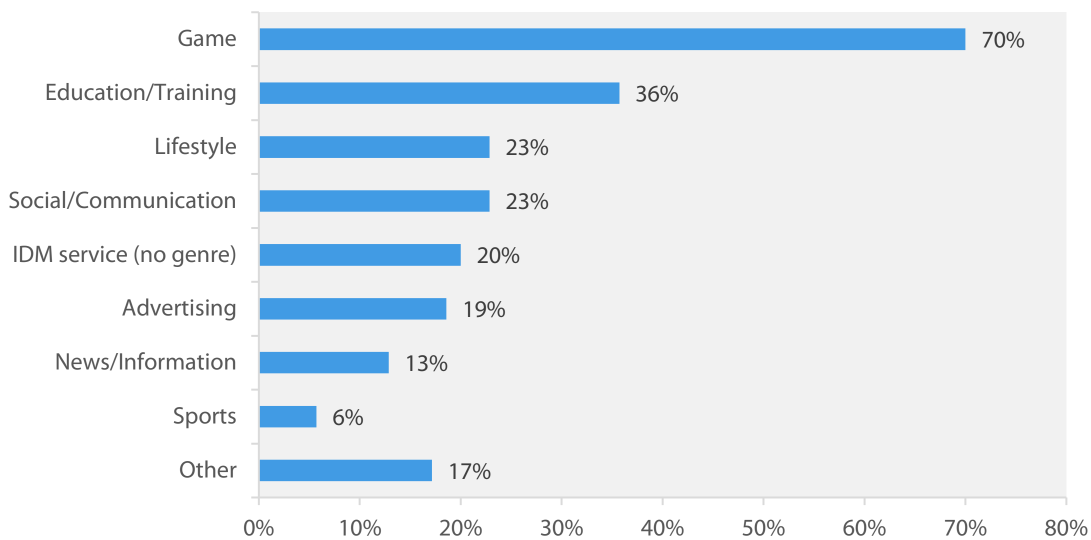


n = 67
Source: Survey of Ontario's Interactive Digital Media Industry 2018

IDM companies in Ontario create a variety of IDM experiences, as seen in the figure below. The percentages of companies creating each type of experience have remained largely unchanged since 2015. The only genre in which companies appear to be less interested than in 2015 is the *News/Information* genre which declined from 23% to 13%.

Games represent a significant portion of IDM products and services, with 70% of the companies working in the Games genre.

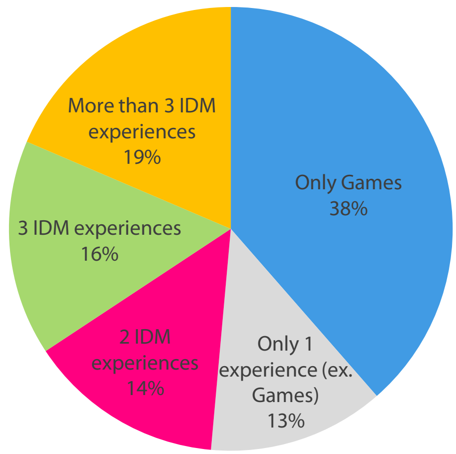
Figure 7: Types of experiences developed by Ontario's IDM companies (multiple answers possible)



n = 70
Source: Survey of Ontario's Interactive Digital Media Industry 2018

Moreover, over one-third (38%) of the companies work exclusively on Games which is consistent with the portion of companies that identified themselves as primarily game development or publishing companies (see Section 2.2).

Figure 8: Number of experiences developed by Ontario's IDM companies

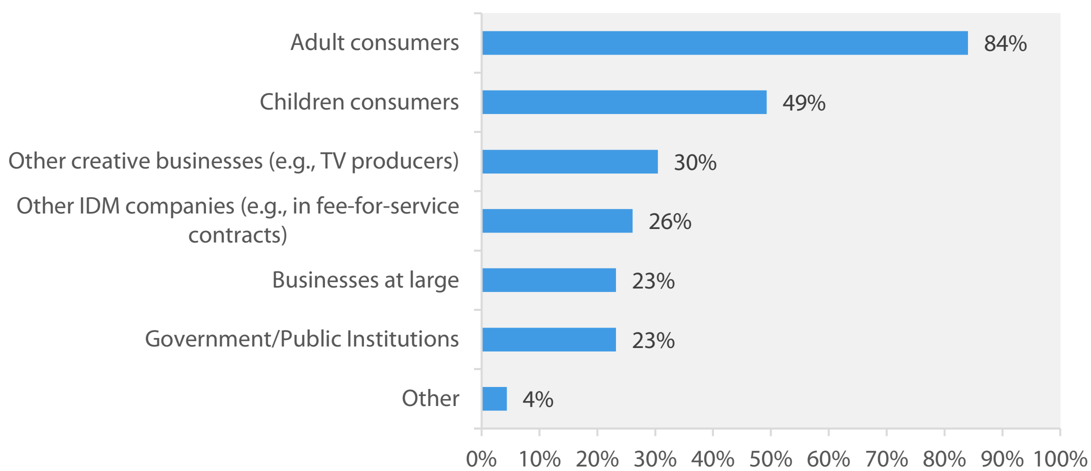


n = 70
Source: Survey of Ontario's Interactive Digital Media Industry 2018

In 2015, a quarter of the companies were creating more than three IDM experiences, whereas only 19% are doing the same in 2017; similarly, the percentage of companies focusing on creating a single IDM experience has grown from 46% to 51% (38% only games + 13% only one experience excluding games). As with the platforms, companies appear to be creating fewer types of products and services than was the case in 2015.

In terms of target audience for their products, almost half (49%) of the companies indicated children consumers, but most (84%) create experiences for adult consumers. The figure below shows the target audience for IDM experiences produced by the industry.

Figure 9: Target audience for experiences created by Ontario's IDM companies

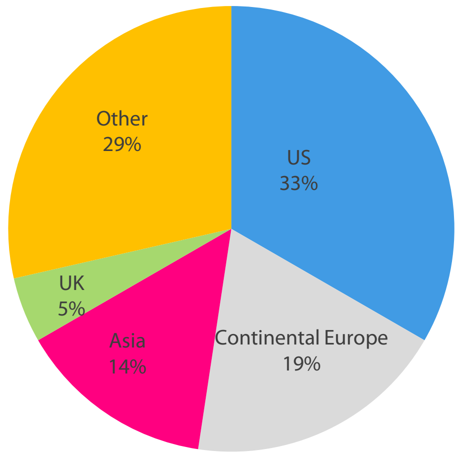


n = 67
Source: Survey of Ontario's Interactive Digital Media Industry 2018

Interestingly, almost a quarter (23%) of the respondents reported creating experiences for governments or public institutions. These experiences include 360° videos to promote tourism, eLearning, VR training simulations and others.

Over a quarter (25%) of IDM companies in Ontario reported working with companies in other countries to develop products. The figure below shows a breakdown of co-productions undertaken by them.

Figure 10: Breakdown of co-productions by jurisdictions



n = 17
Source: Survey of Ontario's Interactive Digital Media Industry 2018

Almost one-third of these co-productions were completed with a US-based partner.

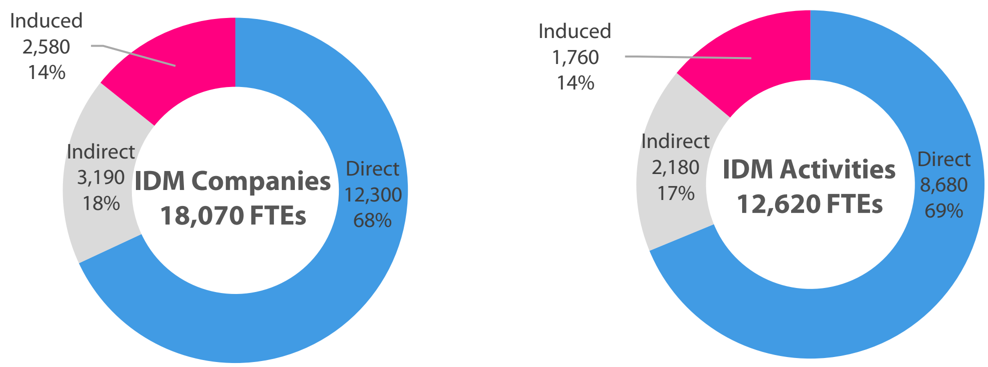
4. Working in Ontario's IDM Industry

To produce the products and services described in the previous section, Ontario's IDM companies employ a highly-skilled workforce. This section describes the employment impact of the industry, and profiles the workforce employed by IDM companies in terms of demographics and skills.

4.1 Employment

Companies making IDM products and services in Ontario support the employment of **18,070 FTEs,** including direct, indirect and induced employment, as seen in the figure below. Of that total figure, **12,620 FTEs** are directly or indirectly supported by the creation, marketing and/or sale of IDM products and services.

Figure 11: Employment impact of IDM companies in Ontario, and of their IDM activities

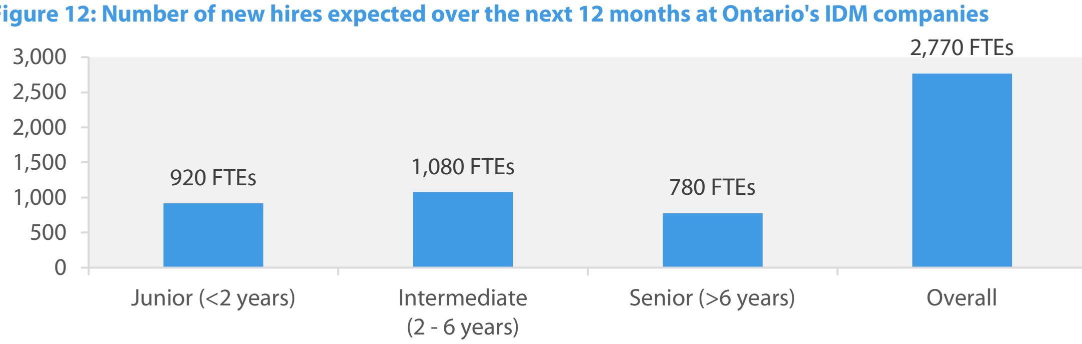


Source: Nordicity MyEIA Model, Statistics Canada, federal and provincial government accounts.

The number of full-time equivalents – 12,300 FTEs as seen in the figure above – directly employed by the industry has **increased by 13% since 2015**. In comparison, employment in Ontario grew by 4% in the same period.[4]

In keeping with the increase in direct employment over the last three years, companies appear to have a positive outlook on hiring over the next 12 months with large companies expecting to hire more than eight people on average.

Figure 12: Number of new hires expected over the next 12 months at Ontario's IDM companies

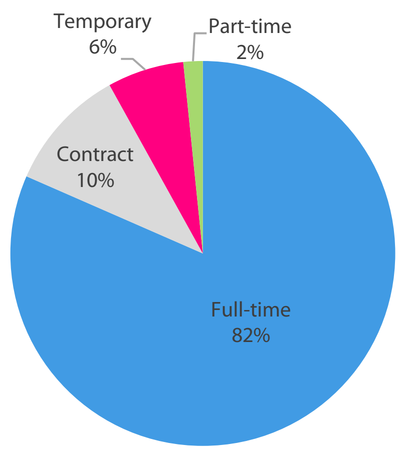


n = 54
Source: Survey of Ontario's Interactive Digital Media Industry 2018; Nordicity MyEIA Model, Statistics Canada, federal and provincial government accounts.

[4] Source: Statistics Canada, Labour Force Survey, Table 14-10-0019-01, (seasonally adjusted data).

Overall, the industry expects to hire 2,770 FTEs in the next 12 months as seen in the figure above. Almost one-third (33%) of the new hires will be at the junior level, which bodes well for recent graduates. These new hires will likely be hired into full-time positions given that most (82%) of the current employees of Ontario's IDM companies are full-time. Non-salaried employees (i.e., contract and temporary labour) constitute 16% of the total.

Figure 13: Breakdown of workforce employed at Ontario's IDM companies by type of employment

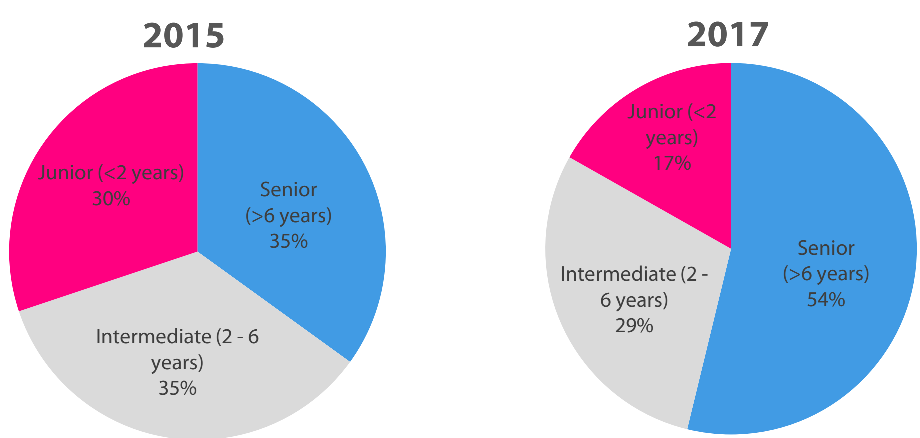


n = 64
Source: Survey of Ontario's Interactive Digital Media Industry 2018

The share of salaried employees (full-time + part-time) has increased from 71% in 2015 to 84% in 2017, implying that companies are spending more per employee given that salaried employees receive benefits over and above their salaries. Additionally, salaries tend to be higher than contract wages (see Figure 15).

There is another change in the workforce pertaining to seniority which is demonstrated in the figure below.

Figure 14: Breakdown of workforce employed at Ontario's IDM companies by seniority in 2017 and 2015



n = 64
Source: Survey of Ontario's Interactive Digital Media Industry 2018

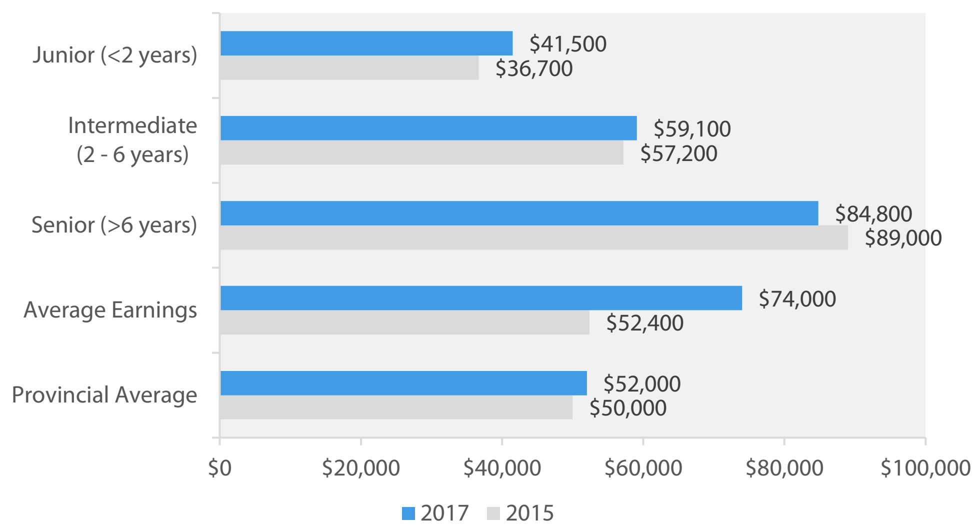
What was an approximately balanced workforce is now quite top-heavy with senior employees making up more than half (54%) of the workforce. Given that the average salary for senior employees is $84,800 per year and that senior employees constitute 54% of the workforce, it is evident that IDM companies in Ontario are experiencing a wage bill that has vastly increased since 2015.

Methodological Note: Average Salaries

The industry average salaries depicted below are weighted, constructed averages and do not reflect the changes in average salary of any particular individual employees. In other words, this report should not be understood to suggest that the average employee received a 41% raise since 2015.

Rather, the growth in average salary stems from two sources. First, the average salaries reported by Ontario-based IDM companies have increased across most levels of seniority (as depicted in Figure 15). More importantly, a significantly larger share of the IDM labour force in Ontario was categorized as "Senior" in 2017 than was the case in 2015 (see Figure 14). In combination, these factors lead to a significant increase in the industry-wide average salary.

Figure 15: Average annual salary by seniority, and overall average paid by Ontario's IDM companies



n = 58
Source: Survey of Ontario's Interactive Digital Media Industry 2018; Statistics Canada Table 14-10-0204-01: Average weekly earnings by industry, annual

The overall average salary has increased by 41% from $52,400 in 2015 to $74,000 in 2017. In comparison, the provincial average annual earnings grew by 4% between 2015 and 2017.[5] Moreover, salaries appear to vary by size of company with large companies paying higher salaries at all levels of seniority.

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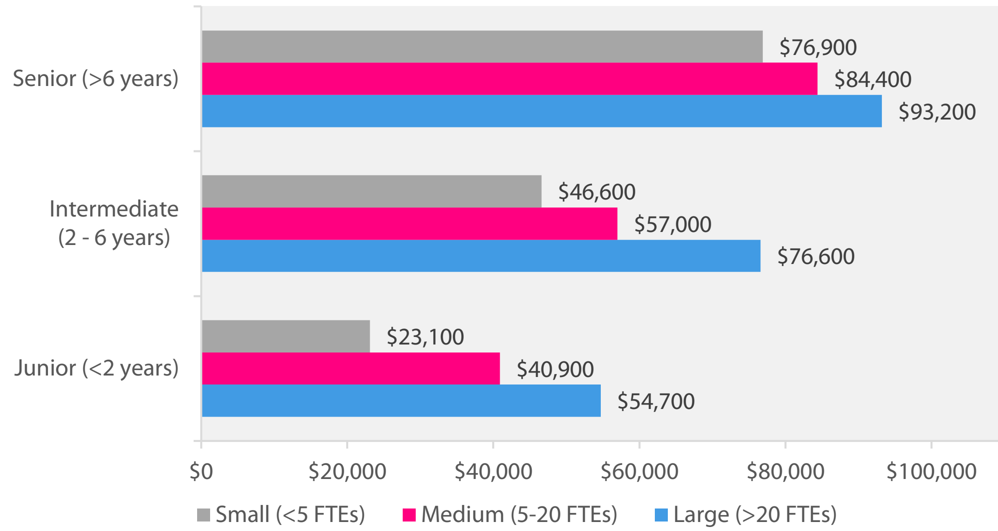
[5] Statistics Canada. Table 14-10-0204-01 Average weekly earnings by industry, annual

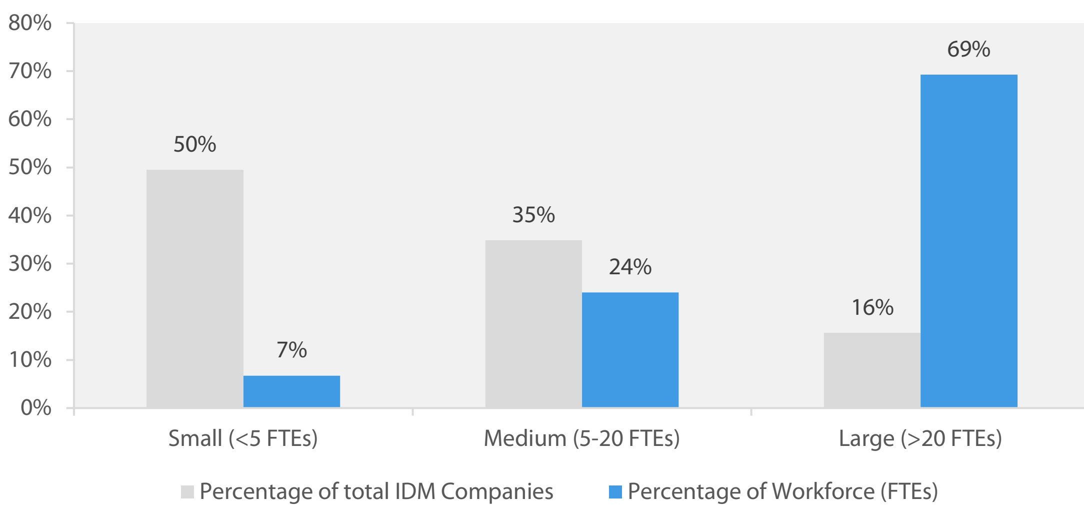
Figure 16: Average annual salary paid by small, medium and large IDM companies in Ontario



n = 58
Source: Survey of Ontario's Interactive Digital Media Industry 2018

While senior employees earn well irrespective of the size of the company, they earn particularly well at large companies receiving salaries of more than $93,000 per year on average.

Figure 17: Distribution of IDM companies and employment (FTEs), by company size



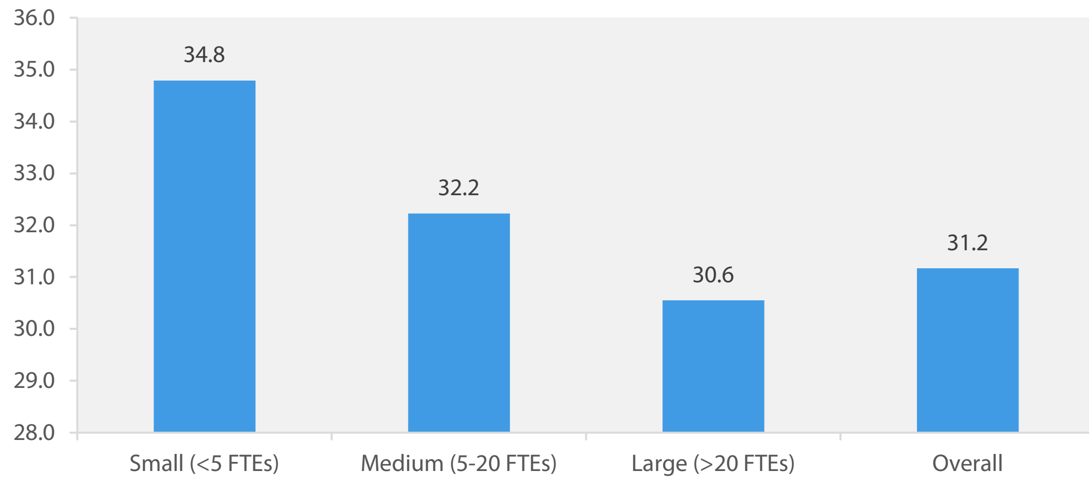
Source: Survey of Ontario's Interactive Digital Media Industry 2018

Given that most (69%) of the workforce works on a full-time basis at large companies – and these companies tend to spend more on their employees – the high average salary results in higher labour expenditure for the industry as a whole.

4.2 Demographics

The workforce employed by Ontario's IDM companies is young, with over 83% of companies reporting an average age of less than 40 years. The overall average for the industry is 31.2 years, as seen in the figure below.

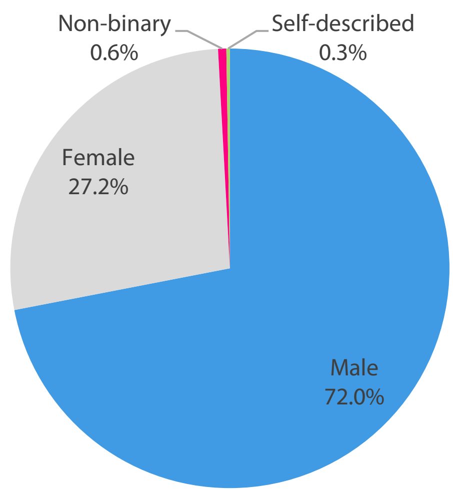
Figure 18: Average age of workforce employed at Ontario's IDM companies



n = 63
Source: Survey of Ontario's Interactive Digital Media Industry 2018

Moreover, the size of the company appears to inversely corelate with average age, i.e., larger companies have a younger workforce on average than small companies. While the workforce is relatively young, it is not quite gender-balanced yet, as seen in the figure below. Male employees constitute over 70% of the workforce.

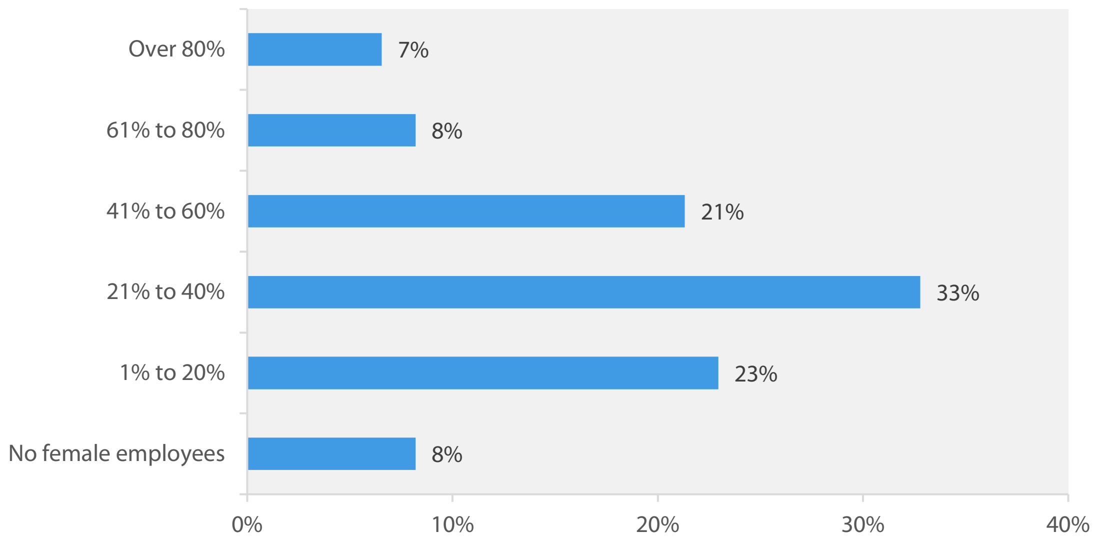
Figure 19: Breakdown of workforce by gender at Ontario's IDM companies



n = 64
Source: Survey of Ontario's Interactive Digital Media Industry 2018

On average, more than a quarter (27%) of the employees are women. This figure has remained largely unchanged since 2015 when it was 25%. As the figure below shows, almost one-third (31%) of the companies have a workforce that is less than 20% women.

Figure 20: Breakdown of Ontario's IDM companies by women as % of workforce



n = 64
Source: Survey of Ontario's Interactive Digital Media Industry 2018

In fact, 8% of the companies reported having zero female employees, which is lower than in 2015 when 20% of companies reported having zero female employees. Only 21% of the companies have an approximately balanced workforce (40% - 60% women).

Most of the workforce was hired from within the country with only 11% being hired from outside Canada.

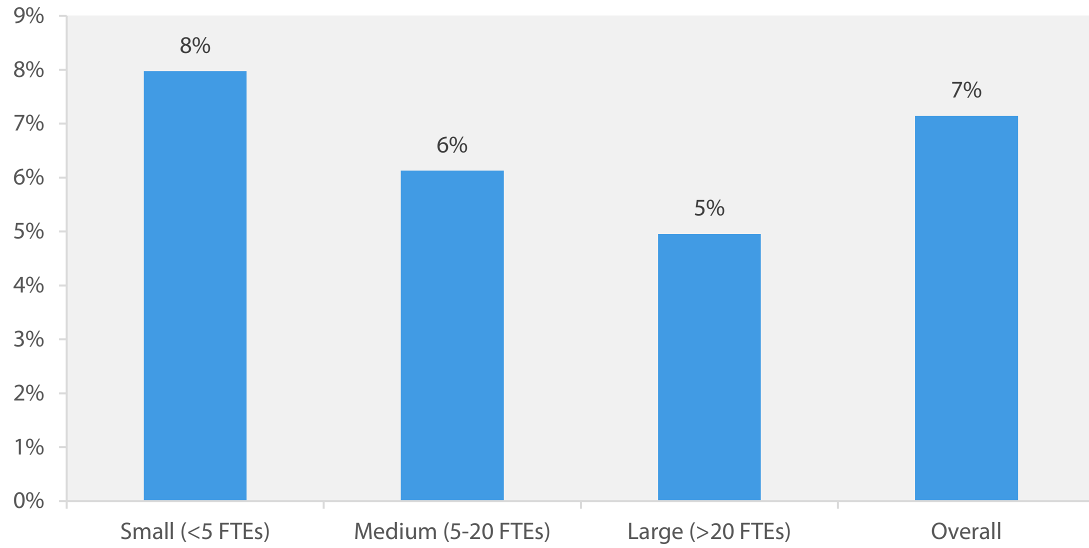
4.3 Skills and Training

The IDM industry in Ontario has a highly-skilled and educated workforce. In fact, over 75% of companies indicated that the average education level of their employees was a Bachelor's degree.

Companies appear to maintain relationships with local post-secondary institutions and hire from them directly. Indeed, almost one-third (30%) of the employees were hired directly from Ontario's post-secondary institutions.

Education for the employees continues at the workplace with companies spending 7% of total labour expenditure on employee training on average.

Figure 21: Training costs as a percentage (%) of total labour expenditure at Ontario's IDM companies



n = 65
Source: Survey of Ontario's Interactive Digital Media Industry 2018

The portion of labour expenditure allocated to training appears to inversely corelate with the size of company, with small companies spending more on training as a percentage of labour, than large companies. Overall the industry spends **$57.9 million** on **training** Ontario's IDM workforce.

5. The Finances of Ontario's IDM Industry

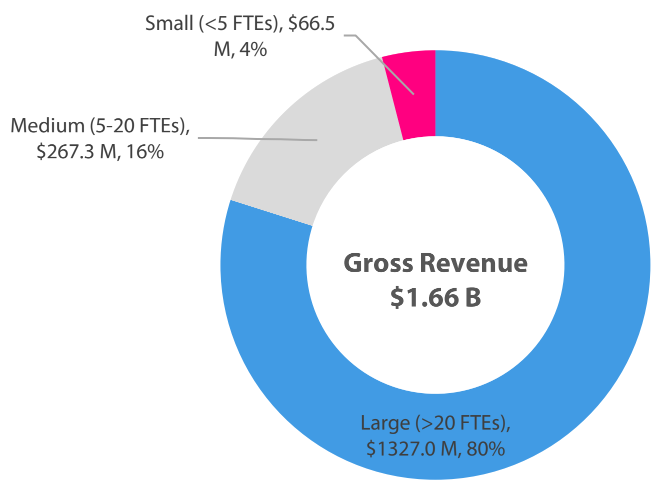
This section describes average revenue and what the industry earns as a whole, and where this revenue is sourced from. The expenditure incurred in generating revenue is also detailed in this section.

5.1 Revenue

IDM companies in Ontario generated **$1.66 billion** in **revenue** in 2017, including **$1.14 billion** (69%) from **IDM-related products and services**. Looking ahead, companies expect their revenue to grow by 12% on average in the 2018 fiscal year.

As noted earlier in this report, the companies in this industry in Ontario vary in size. They range from sole proprietorships to large public corporations. As such the average revenue for each size category is vastly different; small companies earn $145,000 on average while large companies earn more than $6.6 million. Indeed 80% of industry revenue is generated by 15% of all IDM companies, which demonstrates the importance of large companies to the growth of the industry.

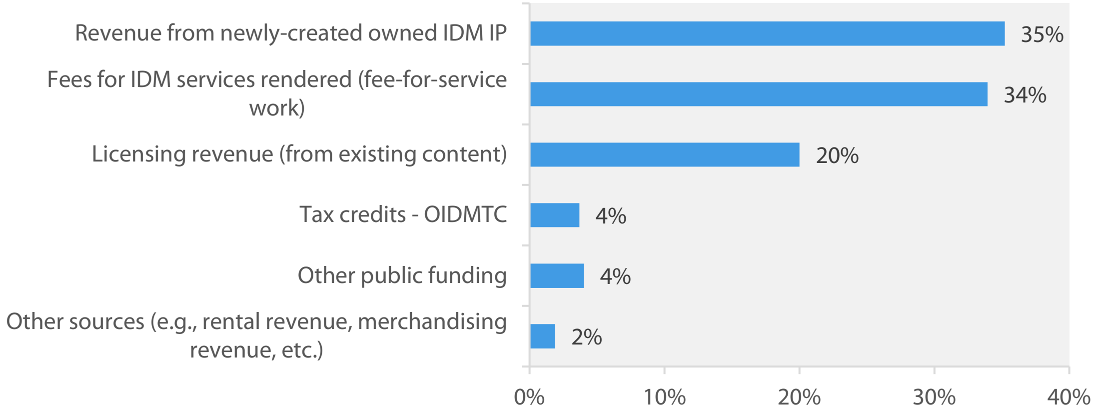
Figure 22: Gross revenue generated by Ontario's IDM industry by company size



n = 70
Source: Survey of Ontario's Interactive Digital Media Industry 2018

The revenue described above results largely from new or licensed content, and fees-for-services rendered. On average, companies earned 35% of their revenue from newly created owned intellectual property, 34% from fees-for-services rendered and 20% from licensing existing content. The figure below shows a complete breakdown of revenue by source.

Figure 23: Revenue earned by Ontario's IDM companies by source

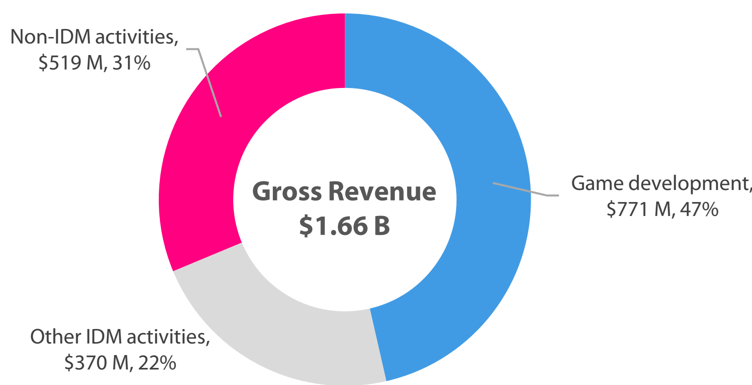


n = 65
Source: Survey of Ontario's Interactive Digital Media Industry 2018

The IDM industry in Ontario is supported by the Ontario Interactive Digital Media Tax Credit (OIDMTC). This tax credit applies to eligible Ontario labour and marketing expenditures at rates ranging from 35% to 40%, depending on whether companies develop and market their own products. Companies reported that 4% of their total revenues on average were attributable to OIDMTC, or approximately $42.3 million[6] in gross revenue. This gross figure differs from the total tax credits disbursed by Ontario Creates in 2016-17[7] because there is very likely to be a delay between when the applications are submitted to when they are processed.

IDM companies in Ontario earn revenue from IDM as well as non-IDM products and services, with almost half (47%) of gross revenue being sourced from game development activities.

Figure 24: Total IDM and non-IDM revenue earned by Ontario's IDM companies



n = 65
Source: Survey of Ontario's Interactive Digital Media Industry 2018

A large majority of the revenue earned by Ontario's IDM companies on average is export revenue, with the United States (37%) and Continental Europe (34%) being the largest markets. The figure below shows the average breakdown of the revenue earned by Ontario's IDM companies by market.

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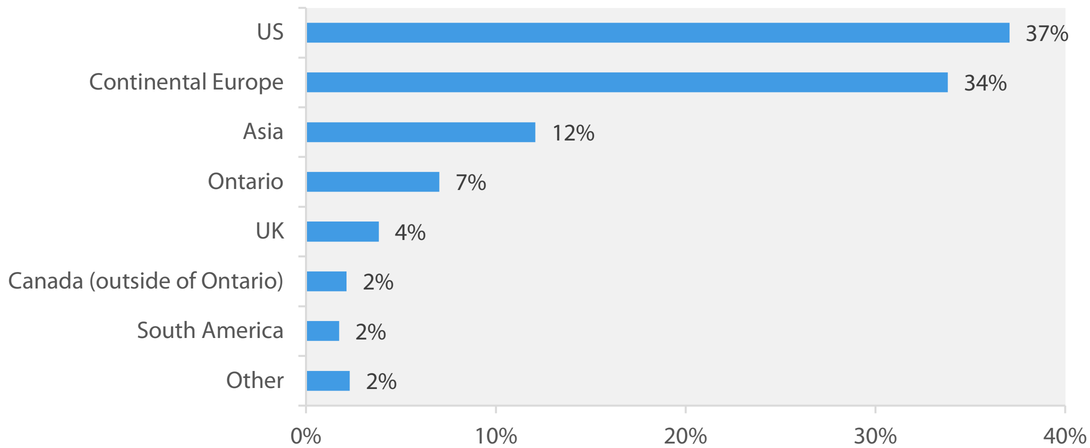
[6] Average % of revenue sourced from tax credits - OIDMTC multiplied by gross IDM revenue

[7] Tax Credit Statistics 2016-17 published by Ontario Creates

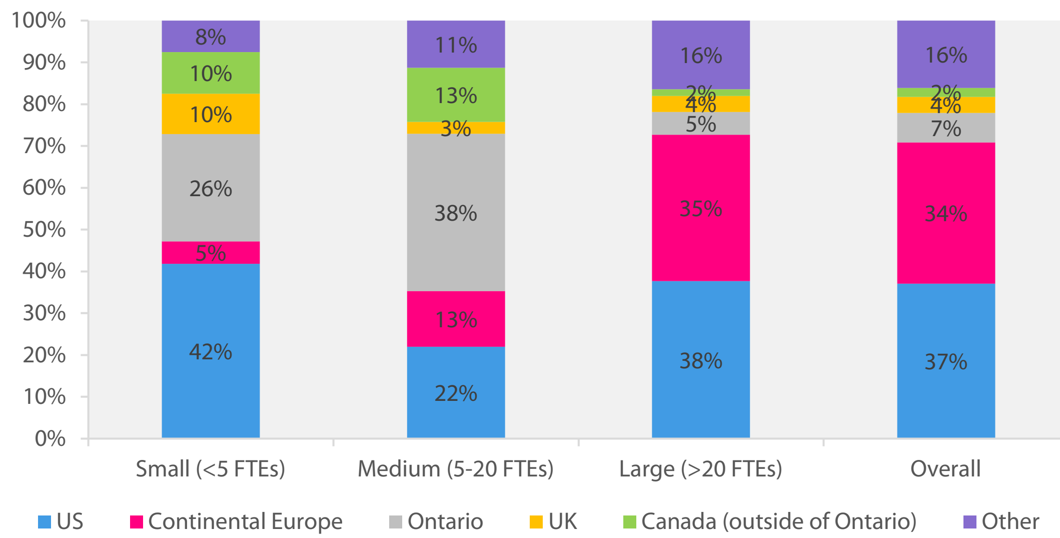
Figure 25: Revenue earned by Ontario's IDM companies by market



n = 65
Source: Survey of Ontario's Interactive Digital Media Industry 2018

Revenue earned from the Canadian market amounts to less than 10% as seen in the figure above, but this figure is not consistent across company size. The figure below shows the revenue breakdown by size of company.

Figure 26: Revenue earned from different markets by Ontario's IDM companies by size



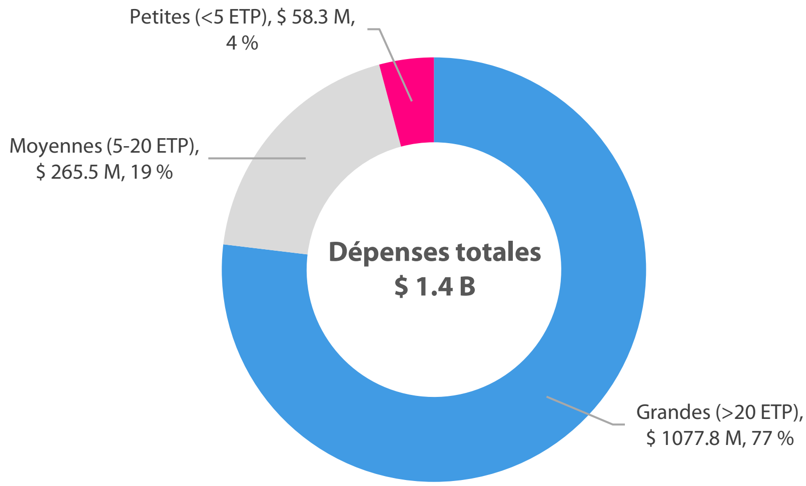
n = 65
Source: Survey of Ontario's Interactive Digital Media Industry 2018

Medium-sized companies earn on average 52% of their revenue from within Canada – 38% from within Ontario – and their export markets appear to be more distributed. This is likely due to medium companies getting fee-for-service contracts from larger companies within the province. Indeed, almost one-third (33%) of medium-sized companies reported *Other IDM companies* as one of their target markets (see Section 3). Small companies earn just over a quarter (26%) of their revenue from Ontario, and large companies earn only 5% of their revenue on average from within the province. US appears to be the largest market for small and large companies.

5.2 Expenditure

In 2017, IDM companies in Ontario spent a total of **$1.4 billion** including **$984 million** (70%) exclusively on creating IDM products and services. As with the revenue, spending in the industry is driven by large companies, with 15% of all IDM companies spending 77% of total industry expenditure, as seen in the figure below.

Figure 27: Total spending by Ontario's IDM companies by size of company

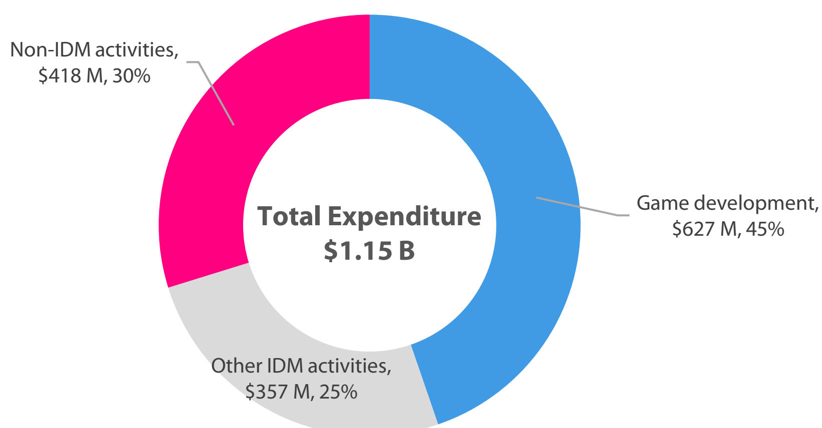


n = 70

Source: Survey of Ontario's Interactive Digital Media Industry 2018, Interactive Ontario

As noted previously IDM companies in Ontario also create non-IDM products and services, although 70% of the industry's total expenditure is related to IDM activities, particularly, developing games (45%) and other IDM products or services (25%).

Figure 28: Total IDM and non-IDM spending by Ontario's IDM companies



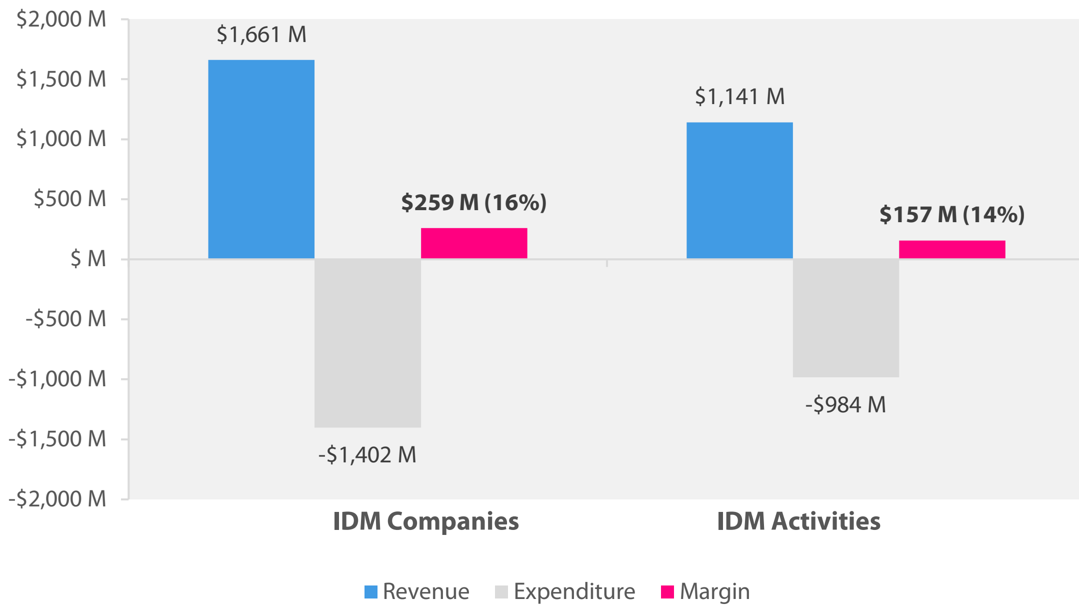
Source: Survey of Ontario's Interactive Digital Media Industry 2018, Interactive Ontario

A large percentage of expenditure for a typical IDM company in Ontario is likely to be labour. The average labour expenditure is 67% of total expenditure, and this average is consistent across the industry irrespective of size of the company. These companies also allocate on average 17% of their total expenditure towards research and development. This finding may indicate the importance continuing to develop new products and in order to stay competitive in a rapidly changing business environment.

5.3 Operating Margin

Operating margin for the industry is estimated to be **15.6%, or $259.3 million**. The margin for IDM-related activities is estimated to be **14%,** or **$157 million**.

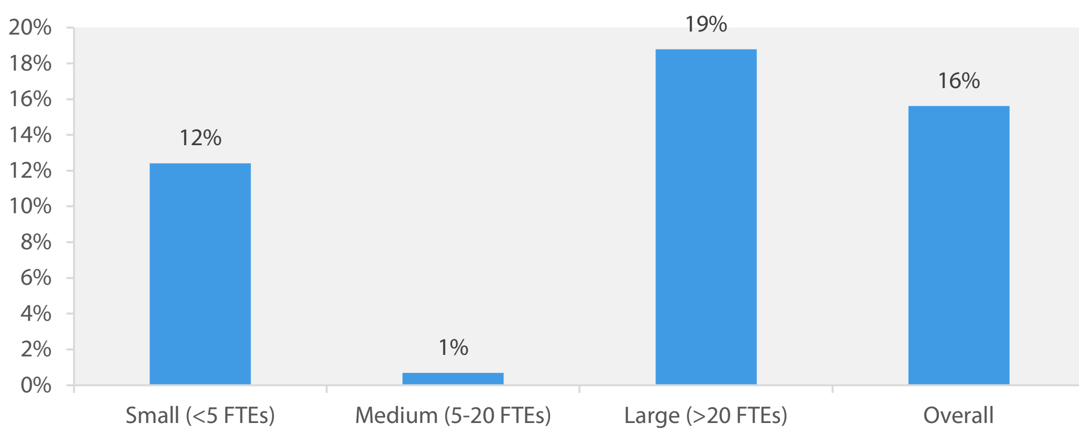
Figure 29: Operating margin for the IDM industry and IDM-related activities



Source: Survey of Ontario's Interactive Digital Media Industry 2018, Interactive Ontario

Medium-sized companies operate at a much lower margin than large and small companies, as seen in the figure below. This finding may reflect the difficulties of running a medium-sized company in this industry. On the one hand, such companies maintain overhead expenses that small companies do not typical have. At the same time, they do not typically have the scale of large companies, which can develop multiple concurrent revenue streams.

Figure 30: Ontario' IDM industry operating margin by size of company



Source: Survey of Ontario's Interactive Digital Media Industry 2018

The industry margin has decreased from 25% in 2015 to 15.6% in 2017 which can be attributed to the increased labour spend described in Section 4.1.

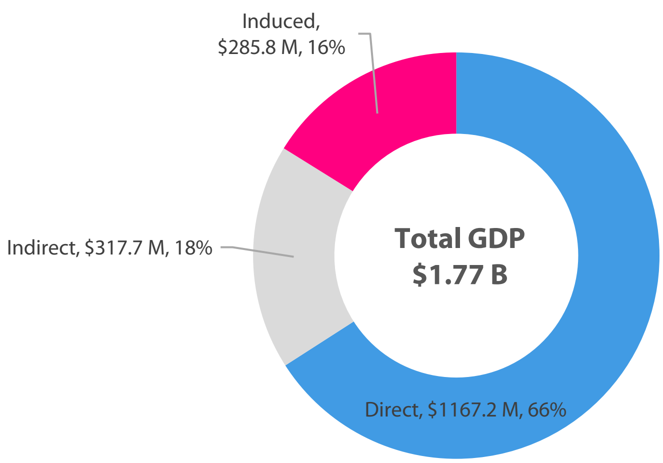
6. Impacts of the IDM Industry in Ontario

The operating margin and expenditures of the industry have an impact on Ontario's economy which can be measured in terms of GDP, taxes and employment. This section details the economic impact and the other impacts the companies have on the local economy.

6.1 Economic Impact of IDM Companies

IDM companies in Ontario contributed **$1.17 billion** in direct GDP impact to the provincial economy in 2017.

Figure 31: GDP impact of Ontario's IDM companies

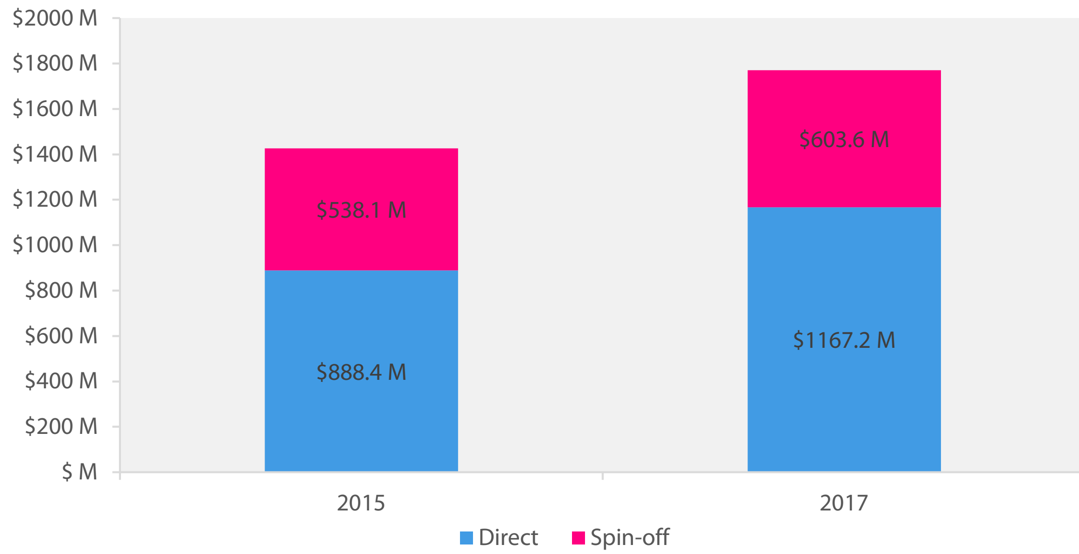


Source: Nordicity MyEIA Model, Statistics Canada, federal and provincial government accounts.

As seen in the figure above, in addition to the direct impact, activity in this industry generated **$317.7 million** in **indirect** GDP impacts and **$285.8 million** in **induced** GDP impacts.

The **combined GDP impact** is estimated to be **$1.77 billion**, which is 24% higher than the industry's impact in 2015, as seen in the figure below.

Figure 32: Direct and spin-off (indirect + induced) GDP impact of Ontario's IDM companies



Source: Nordicity MyEIA Model, Statistics Canada, federal and provincial government accounts.

A summary of all the economic impacts of Ontario's IDM companies can be seen in the table below.

Table 2: Summary of economic impact of Ontario's IDM companies

	Direct impact	Indirect impact	Induced impact	Total impact
Employment (FTEs)	12,300	3,190	2,580	**18,070**
Labour income	$907.9 M	$189.4 M	$137.1 M	**$1234.3 M**
Gross domestic product	$1167.2 M	$317.7 M	$285.8 M	**$1770.7 M**

Source: Nordicity MyEIA Model, Statistics Canada, federal and provincial government accounts.

As a result of the economic activity described above, the industry contributes to tax revenue at the federal and provincial level in form of personal income taxes, corporation income taxes (based on profits), consumption taxes and local property taxes. The table below shows a detailed breakdown of the fiscal impact.

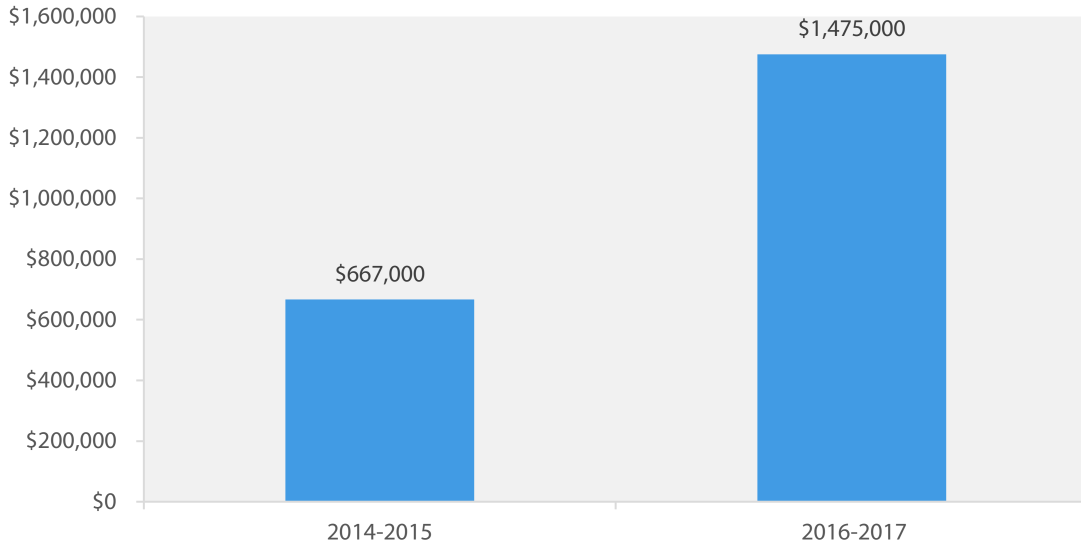
Table 3: Fiscal impact of Ontario's IDM companies

	Federal	Provincial	Total
Personal income taxes	$206.3 M	$119.5 M	$325.8 M
Corporation income taxes	$22.4 M	$16.2 M	$38.6 M
Consumption taxes	$38.7 M	$63.4 M	$102.1 M
Local property taxes and other fees	$.0 M	$78.3 M	$78.3 M
Total	**$267.3 M**	**$277.4 M**	**$544.7 M**

Source: Nordicity MyEIA Model, Statistics Canada, federal and provincial government accounts.

Ontario Creates reported that it disbursed $79.1 million in OIDMTC tax credits in 2016-17.[8] For every $100,000 of tax credit, the IDM industry in Ontario contributed $1.5 million in direct GDP impact.

Figure 33: GDP contribution per $100,000 of OIDMTC tax credit disbursement



Source: Nordicity MyEIA Model, Ontario Creates tax credit data

6.2 Economic Impact of IDM-related Activities

The previous section detailed the economic impact generated by Ontario's IDM companies. This section focuses on the impact of IDM-related activities, that are expenses incurred in the creation of IDM products and services.

Nordicity estimates that the **8,680 full-time equivalents** employed in IDM-related activities earned **$642 million** in **labour income** in 2017.

Table 4: Economic impact of the IDM-related activities of Ontario's IDM companies

	Direct impact	Indirect impact	Induced impact	Total impact
Employment (FTEs)	8,680	2,180	1,760	**12,620**
Labour income ($M)	$642.0 M	$130.3 M	$94.2 M	**$866.5 M**
Gross domestic product ($M)	$799.3 M	$218.3 M	$196.5 M	**$1.21 B**

Source: Nordicity MyEIA Model, Statistics Canada, federal and provincial government accounts.

The total GDP impact of the IDM-related activities of IDM companies in Ontario is estimated to be **$1.21 billion**. The fiscal impact of these activities is described in the table below.

Table 5: Fiscal impact of the IDM-related activities of Ontario's IDM companies

	Federal	Provincial	Total
Personal income taxes ($M)	$144.8 M	$83.9 M	$228.7 M

[8] Tax Credit Statistics 2016-17 published by Ontario Creates

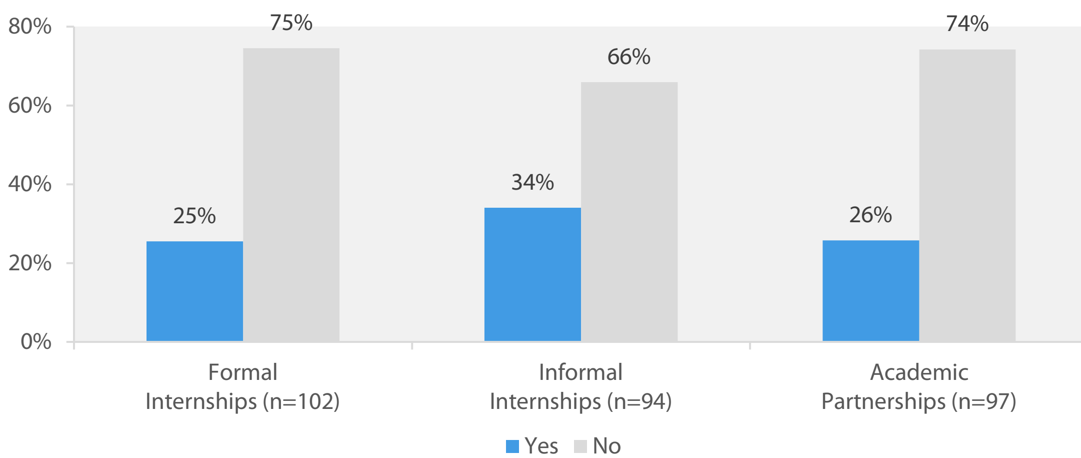
	Federal	Provincial	Total
Corporation income taxes ($M)	$14.5 M	$10.5 M	$25.0 M
Consumption taxes ($M)	$26.5 M	$43.5 M	$70.0 M
Local property taxes and other fees ($M)	$.0 M	$53.7 M	$53.7 M
Total ($M)	**$185.8 M**	**$191.5 M**	**$377.4 M**

Source: Nordicity MyEIA Model, Statistics Canada, federal and provincial government accounts.

6.3 Other Impacts

In addition to economic impacts, companies in this industry make charitable donations, and build relationships with local post-secondary institutions. Indeed, more than a quarter (26%) of the companies maintain academic partnerships with Ontario-based institutions.

Figure 34: Ontario's IDM companies maintaining internship programs and academic partnerships

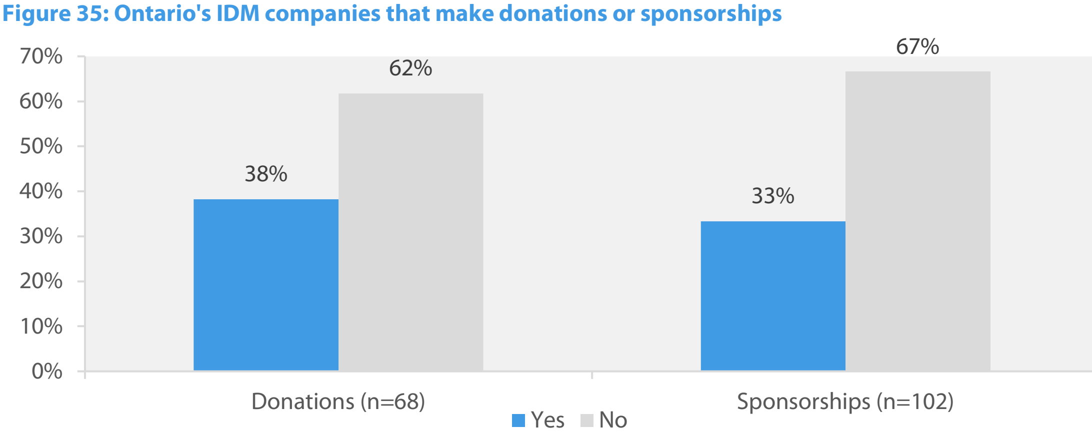


Source: Survey of Ontario's Interactive Digital Media Industry 2018

Over 42% of the companies maintain either a formal or informal internship program.

In terms of charitable giving, more than one-third (38%) of the companies reported making donations and a similar percentage (33%) reported making sponsorships.

Figure 35: Ontario's IDM companies that make donations or sponsorships



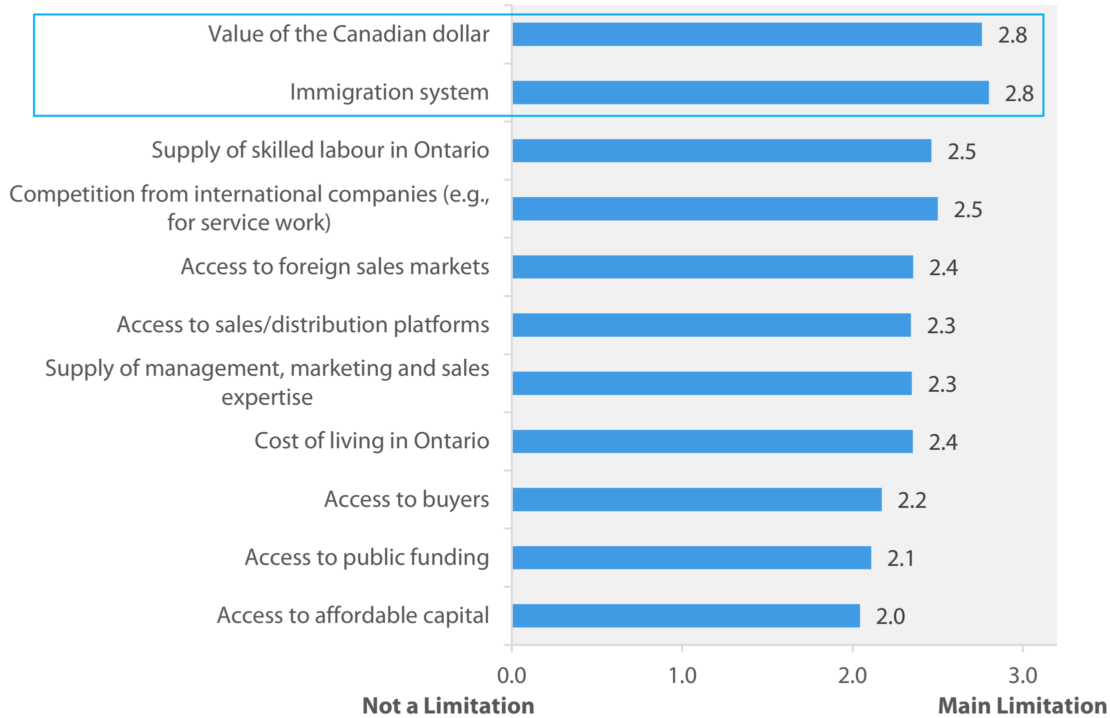
Source: Survey of Ontario's Interactive Digital Media Industry 2018

7. Challenges

This section highlights the challenges faced by companies in the industry. The figure below shows the average rating provided by companies on a scale of *not a limitation* to *main limitation*. The factors identified by the respondents as most limiting, reflect the global nature of this industry in Ontario.

Given that over 90% of the revenue earned by Ontario's IDM companies is export revenue (as noted in Section 5.1), companies are concerned about the value of the Canadian Dollar.

Figure 36: Factors limiting growth identified by Ontario's IDM companies



n = 61
Source: Survey of Ontario's Interactive Digital Media Industry 2018

The immigration system was identified as the other most limiting factor, followed by supply of skilled labour in Ontario. These ratings suggest that companies are facing challenges in finding skilled labour within the province but are also finding it difficult to hire foreign workers to meet demand. Additionally, their ability to hire from outside can be impacted by the value of the Canadian dollar as foreign workers will need to be paid more.

These ratings differ slightly by size of company. For example, small companies perceive competition from international companies (e.g., for service work), and supply of skilled labour in Ontario as the factors most limiting their growth, and large companies indicated cost of living in Ontario and the immigration system as the most limiting factors. Small companies, unlike large ones are less likely to hire out of post-secondary institutions or from outside the country and consequently are less concerned about the immigration system. Large companies, on the other hand, are concerned about cost of living likely because the rising unaffordability may cause an upward pressure on salaries that are already high (see Section 4.1).

8. Conclusions and Key Findings

Small companies, privately-owned:

- There are 929 IDM companies in Ontario
- Almost half (49%) of Ontario's IDM companies employ fewer than five people
- 11% of the companies started operations in 2017 and 2018
- More than one-third (36%) of the companies have been in operation for fewer than five years
- 94% of the companies are Canadian-controlled

Companies are specializing and changing focus:

- The portion of companies working on three or more platforms changed from 69% in 2015 to 39% in 2017
- In 2015, a quarter of the companies were creating more than three IDM experiences, whereas only 19% are doing the same in 2017
- The percentage of companies working in the *News/Information* genre declined from 23% in 2015 to 13% in 2017

Games are the most common IDM product or service:

- 70% of the companies work in the Games genre
- More than one-third (38%) of the companies work exclusively on Games
- 45% of total expenditure incurred by IDM companies is related to developing games

Salaries have increased since 2015:

- The overall average salary has grown by 41% since 2015
- The share of salaried employees (full-time + part-time) has increased from 71% in 2015 to 84% in 2017

Workforce at IDM companies is young, educated and largely male:

- The overall average age for the industry is 31.2 years
- Large companies have a younger workforce on average than small companies
- Companies indicated *Bachelors Degree* as the average education level of their employees. This average was the same for all sizes of companies
- Almost one-third (33%) of the employees were hired directly from Ontario's post-secondary institutions
- More than a quarter (27%) of the employees are women; men constitute 72% of the workforce; 1% of the workforce identifies as non-binary or other

IDM companies make significant contributions to Ontario's economy:

- IDM companies in Ontario generated **$1.66 billion** in **revenue** in 2017, including **$1.14 billion** (69%) from **IDM-related products and services**
- IDM companies in Ontario spent a total of **$1.40 billion**, including **$984 million** (70%) on creating IDM products and services

- IDM companies in Ontario contributed **$1.17 billion** in direct GDP impact to the provincial economy in 2017
- Activity in this industry generated **$317.7 million** in **indirect** GDP impacts and **$285.8 million** in **induced** GDP impacts.
- The total combined GDP impact is estimated to be **$1.77 billion**, which is 24% higher than the industry's impact in 2015
- The total GDP impact of the IDM-related activities of IDM companies in Ontario is estimated to be **$1.21 billion**
- For every $100,000 of OIDMTC tax credit disbursed by Ontario Creates, the IDM industry in Ontario contributed $1.5 million in direct GDP impact
- IDM companies directly employ 12,300 FTEs, and of these, 8,680 FTEs specifically perform IDM-related activities

Exports constitute a large part of industry revenue:

- Over 90% of the revenue earned by Ontario's IDM companies on average is export revenue
- United States (37%) and Continental Europe (34%) are the largest markets

Companies face challenges but have a positive outlook:

- Revenue earned from the Canadian market amounts to less than 10% of total revenue on average, consequently companies are concerned about the value of the Canadian dollar
- Companies are likely facing challenges in finding skilled labour within the province but are also finding it difficult to hire foreign workers to meet demand
- Large companies are concerned about cost of living likely because the rising unaffordability may cause an upward pressure on salaries that are already high
- The industry expects to hire 2,770 FTEs in the next 12 months
- Companies expect their revenue to grow by 12% on average in the 2018 fiscal year

Appendix A. Methodology

A.1 Survey data

The data presented in this study is drawn principally from the Measuring Success Survey, an online survey of Ontario-based interactive digital media (IDM) companies conducted by Nordicity between July and December 2018.

The primary purpose of the survey was to obtain activity and financial data about the companies that comprise the IDM industry in Ontario. The survey also captured company positions on factors related to corporate growth in 2019.

The survey collected responses from 107 IDM companies in Ontario, or 11.5% of the 929 Ontario-based IDM companies for which contact information was available. Given the dearth of available data on the IDM industry in Ontario, it is not possible to estimate what portion of industry revenue, expenses, and/or employment is represented in the survey sample.[9]

In order to extrapolate from the survey to the wider IDM industry in Ontario, Nordicity relied on an inventory of IDM companies provided by Interactive Ontario. This list was validated through desk research to ensure both the continuing existence and current size of firms (in terms of employment). Companies were excluded from the list if they were found to be either no longer active or publicly owned (e.g., academic institutions).

In the process of grossing up the survey sample, Nordicity assumed that any survey data relating to employment and financial performance (e.g., average salaries, revenue, employment growth, seniority of workforce, etc.) are representative of the wider population of Ontario-based IDM firms among companies of similar size. As such, findings relating to employment and financial performance have been adjusted to reflect the actual distribution of small, medium, and large companies within the wider population of Ontario-based IDM companies. Where data describes characteristics that do not have a clear correlation with company size (e.g., the platforms for which companies develop, audiences, female employees in the workforce, level of educational attainment, etc.), no distinction was made between the survey sample and universe. At the same time, outliers (identified at the outset of the gross-up process) were omitted from averages upon which the gross-up was based and then re-added to the grossed-up estimates at the end of the process.

A.2 Economic Impact Analysis

In preparing the economic impact estimates, Nordicity used its MyEIA model, which employs Statistics Canada Input-Output tables to compute economic impacts. The inputs for the model are primarily gross revenue for the industry, gross margin, average FTE salary and gross expenditures, as gathered by the survey.

The model requires the expenditure to be allocated to different categories. Labour expenditure was derived from the survey which asked for percentage of expenditure allocated to labour. Expenditures for other categories were calculated based on previous studies conducted by Nordicity.

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[9] Note that the types of information collected by this survey (e.g., company activities and financial results) do not conform to a normal distribution – and data was gathered from those companies that voluntarily responded to the survey. As such, the collected data can be called a "convenience sample", as opposed to a "probability sample," meaning that most statistical tools typically used to ascertain the reliability of the data cannot be used. It is for this reason that margins of error cannot be calculated.

Average FTE salary was calculated by dividing gross labour expenditure by gross number of full-time employees (average FTE * gross number of companies).

The contribution of the industry to the provincial economy can be articulated in two ways:

- The **direct** economic impact refers to the income, GDP and jobs generated in the course of the industry's day-to-day operations. This economic impact is largely in the form of wages and salaries paid to employees and contract workers.
- The **spin-off** economic impact includes both indirect and induced impacts:
    - The indirect economic impact refers to the increase in economic activity that occurs when companies purchases goods and services from its suppliers. These purchases increase income and employment at the supplier companies and, in turn, increase demand for other upstream suppliers – i.e., the suppliers' suppliers.; and
    - The induced economic impact refers to the increase in household income, GDP and jobs that can be attributed to the re-spending of income by households that earned income at both the direct and indirect stages described above.