Economic Profile of the Computer Animation and Visual Effects Industry in Ontario, 2008-2010

Final Report

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Prepared for

CASO

By

Nordicity

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Nordicity

Table of Contents

Executive Summary

Introduction

Report Mandate

- Nordicity was commissioned by the Computer Animation Studios of Ontario (CASO) to provide key economic data on the computer animation and visual effects industries in Ontario.
- In addition to the economic profile data, Nordicity conducted a high-level economic impact analysis of the computer animation and visual effects industries in Ontario – and their impact on Ontario's GDP.
- In parallel to the collection of economic indicators, Nordicity issued a survey to the customers of Ontario-based computer animation and visual effects companies to gauge the satisfaction of these customers. The results of that survey process are reflected in this document.

Report Methodology

- Nordicity conducted two parallel surveys to gather the needed data for this report: an Economic Profile Survey and a Customer Satisfaction Survey.
- The Economic Profile Survey was distributed directly to 28 computer animation and visual effects studios. Useable responses were received (in whole or in part) from 14 studios (or 50% of the number of companies).
- The Customer Satisfaction Survey was distributed by studios directly to their clients/customers. As such, the total universe of distributed questionnaires for the Customer Satisfaction Survey is not known.
- A standard economic impact analysis was also conducted.

Findings

Industry Growth

- Despite a small dip in **production levels** in 2009 in the computer animation (CA) 2010 saw a rebound. That said, the 2010 growth was somewhat limited (up 10% from 2009 levels). Meanwhile, in the VE industry production levels grew significantly (in terms of number of shots completed) between 2008 and 2010.
- **Revenue** levels in both the CA and VE industries grew significantly in 2010 (from 2009 levels) after being relatively flat between 2008 and 2009. Over the three year period in question, both industries' revenue levels saw around a 17% annualized compound growth rate.
- As one might expect, **expenditure levels** roughly follow the trend of production and revenue – with a dip in 2009 and a significant rebound in 2010. Over the three year period,

CA expenses seemed to grow (at 13% compound annual growth) slightly faster than VE expenses (which grew at a rate of 10% compounded annually).

- In 2010, the majority of these expenses (roughly 2/3) were wages, compensation and employee benefits.
- Combining the above, it was observed that **profit margins** in the CA industry have come to exceed that of the VE industry. In 2008, the CA industry had an average margin of 11%, which grew to 18% in 2010. At the same time, the VE studios' 13% margin in 2008 shrunk slightly to 12% in 2010.

Products and Territories

- In terms of **product lines** the VE industry relies heavily on three types of projects: live action feature film service work, live action TV service work, and live action TV original content. Conversely, CA studios in Ontario derive revenue from a wide variety of product types.
- Indeed, 100% of reported revenue (in 2010) in the VE industry was from service-based work, while just over 1/3 of revenue in the CA industry was generated by original content.
- When examining the **territories** where CA and VE studios generated their revenue in 2010, it was observed that most (79%) of the CA work reported came from Ontario, with New York accounting for another significant portion (19%). For VE studios, Ontario was also the largest source of revenue (50%), while Los Angeles was also a very important source of revenue (41%).

Capital and Funding

- In terms of **initial capitalization**, CA relied heavily on self-financing (54%) to start their firms. While VE firms also used self-funding (making up 33% of initial capital), they were far more successful in attracting private equity, which accounted for 42% of VE studios' initial capitalization.
- The two industries are somewhat more similar in terms of sources of **on-going capital,** with retained earnings accounting for 46% and 40% of CA and VE capital, respectively. Again, while both types of studio will rely on self-funding, CA studios (at 32%) are more dependent on this type of financing than VE studios (at 22%). On the other hand, VE studios seem to be somewhat more successful in attracting bank credit (which accounts for another 22% of VE studios' on-going capital).

Jobs and Employment

- Looking at **employment levels in total**, one sees that CA studios saw a small dip in employment in 2009, but rebounded strongly in 2010. VE studios, on the other hand, experienced more significant growth between 2008 and 2009. By 2010, CA studios had grown at a compound annual rate of 9% (from 2008 levels) while the VE industry grew by 10% over the same period.
- When employment is examined by **type of position**, it is clear that the distribution of artistic, technical, and administrative staff has remained fairly constant since 2008 – with artistic staff accounting for 81% of all employees in 2008 and 81% in 2010.

- Digging deeper into employment, it is interesting to note the change in **employment status** from 2008 to 2010. Over the three year period (2008-2010), the level of full time employment remained roughly flat (at between 417 and 467 for CA studios; and 381 and 425 for VE studios). However, the percentage of the industry that is made up of contract and/or freelance employment has grown among CA firms. In 2008 contract/freelance workers accounted for 50% of all CA employees, while in 2010 that portion had grown to 55%.

Future Growth and Barriers

- Bucking the conventional wisdom to some extent, studios polled suggested that the most likely sources of **future growth** for their companies lay with live action and animation TV, while live action feature film and mobile applications were thought to be the least likely prospects for growth.
- In terms of achieving this growth, the most commonly identified **barriers to growth** were international competition and the inability to access foreign markets. Lack of affordable capital was also identified as a significant issue.

Customer Satisfaction

- Of those customers that responded to the survey, the vast majority (92%) commented on TV productions and most were from Ontario.
- Overall, customers were very satisfied with the work of Ontario-based studios. That said, the customers were **least satisfied** by the cost of labour in Ontario (which scored 70%) and the quality of technical work (74%).
- Of those customers surveyed, 45% opted to select a firm outside of Ontario. Of these firms, the most common reason given for this decision was, unsurprisingly, the cost of labour in Ontario.

Economic Impact

- The **direct economic impact** of the CA and VE industries in 2010 was $83 million.
- The **total impact including spin-off impacts** of the two industries in 2010 totaled more than $190 million.
- In terms of **FTEs**, the combined CA and VE industries generated employment for 2,721 people in Ontario in 2010. This figure includes direct and spin-off (i.e. indirect and induced) employment.

1. Introduction

This section of the report outlines the project mandate, details the methodology used and provides an outline of the subsequent sections.

1.1 Profile Mandate

- In June 2010, Computer Animation Studios of Ontario (CASO) produced *A Strategy for the Ontario Digital Animation and Visual Effects Industry*. Among the sources of data used in that report was the 2008 report produced by Nordicity for CASO *Economic Profile of the Ontario Computer Animation and Visual Effects Industry*.
- Given that conclusions were being drawn in 2010 on data that described the computer animation and visual effects industries in 2007, it was deemed that an update was required. To this end, Nordicity was commissioned by CASO to provide key data on the computer animation and visual effects industries in Ontario.
- These data include corporate profiles, revenues and expenditure figures, employment and other key economic indicators.
- Additionally, one recommendation made in the 2010 strategy report concerned promoting the industries "on the basis of quality" to domestic and international clients. The Customer Satisfaction survey conducted as part of the current study represents an initial effort to ascertain the industries' existing image in the eyes of their clients.
- Where possible, this report makes comparisons to the report produced by Nordicity for CASO in 2008. As the survey questionnaires administered for the two studies were slightly different (due to changes in project scope and refinements in methodology), not all questions can be compared to 2007 data. Where such comparisons are possible, they are included in the text. However, due to the methodological refinements employed in this study, comparisons to 2007 data should be used with caution.
- In addition to the economic profile data, Nordicity conducted a high-level economic impact analysis of the computer animation and visual effects industries in Ontario – and their impact on Ontario's GDP.
- In parallel to the collection of economic indicators, Nordicity issued a survey to the customers of Ontario-based computer animation and visual effects companies to gauge the satisfaction of these customers. The results of that survey process are reflected in this document.
- While Nordicity was tasked with creating, administering, and analyzing the result of the two surveys, CASO took on the task of stimulating responses among the computer animation and visual effects studios operating in Ontario.

1.2 Methodology

- As stated above, Nordicity conducted two parallel surveys to gather the needed data for this report: an Economic Profile Survey and a Customer Satisfaction Survey.

- The Economic Profile Survey was distributed directly to 28 computer animation and visual effects studios. Useable responses were received (in whole or in part) from 14 studios (or 50% of the companies who received the survey).
- The Customer Satisfaction Survey was distributed by studios directly to their clients/customers. As such, the total universe of distributed questionnaires for the Customer Satisfaction Survey is not known.
- Given that this report aims to account for the entirety of the computer animation and visual effects industries in Ontario, and only a portion of those industries were captured through primary data collection, Nordicity used a relatively simple technique to "gross-up" some data (i.e. production levels, operating revenue, operating expenses and employment).
- To "gross-up" the data, Nordicity first determined the proportion of the estimated total value of projects produced in Ontario in 2010. To estimate the total project value, Nordicity noted from the survey data that 62% of all projects produced by computer animation and visual effects studios in Ontario in 2010 made use of the Ontario Computer Animation and Special Effects (OCASE) Tax Credit. The total project value of these projects amounted to $125,063,434 in 2010.[1] Anecdotal evidence suggested that projects accessing the OCASE tax credit accounted for the majority of project values – as it is less likely that smaller projects would access the tax credit. Therefore, it is assumed that while 38% of projects may not have accessed the OCASE tax credit, these projects account for less than 38% of 2010 total project value. Accordingly, Nordicity inflated the total project values reported by OMDC by 25% to reflect the total project values of those projects that did not access the OCASE tax credit. As such, the estimated total project value for computer animation and visual effects projects in 2010 was **$162,582,464**.
- Using this estimate, Nordicity determined the portion of 2010 total project value captured by the Economic Profile survey. Given that the survey results accounted for an estimated $56,255,000 of project value, the survey results were estimated to reflect 36.0% of the economic activity undertaken by the computer animation and visual effects industries in 2010. Accordingly, a multiplier of **2.78** (1/0.36) was applied to those survey questions where an industry-wide count was needed. Those survey questions based on percentages or opinions did not require grossing up. Grossed-up figures are presented in this report as "estimated."[2]
- No grossing-up was required for the Customer Satisfaction Survey and the results are presented accordingly.
- Based on the results of the Economic Profile, Nordicity conducted a standard economic impact assessment based on cost categories and multipliers devised by Statistics Canada. In so doing, Nordicity was able to calculate the direct and spin-off (i.e. indirect and induced) economic impacts created by the computer animation and visual effects industries in

[1] See the OMDC website at: http://www.omdc.on.ca/Page5938.aspx

[2] This "gross-up" methodology used in this study differs from that used in the 2008 *Profile of the Ontario Computer Animation and Visual Effects Industry*, as total project revenue was not captured by the 2008 survey. As such, the 2008 report undertook additional methodological steps to estimate the project-related revenues generated by survey respondents. Such steps were not necessary for the current study.

Ontario. Employment figures (in Full Time Equivalents [FTEs]) were also generated as part of the economic impact analysis to allow for comparison to other industries.

- One element of the economic impact analysis is the calculation of FTEs. To do so, Nordicity simply divided the estimated direct GDP contribution made by the computer animation and visual effects industries by the average salary of those industries. Unfortunately, the industries do not neatly fit into any given National Occupation Code, as described by the Government of Canada's Working in Canada website.
- That said, the industries relate best to NOC 25223 "Graphic Arts Technicians" (which account for computer animators) and NOC 2174-A - "Computer Programmers and Interactive Media Developers." These professions earn $18.85/hour and $31.33/hour respectively. Accordingly, Nordicity has created an average hourly salary of $25.09/hour. Based on a 7.5 hour day and a five day work week, this estimate generates an average salary level of **$48,925.50**.

1.3 Outline of Report

- Other than this introduction, this report consists of four sections (five in total):
  - **Industry Descriptions:** A very brief overview of the computer animation and visual effects industries;
  - **Industry Profile Data:** A summary of the data gathered by the Economic Profile Survey;
  - **Economic Impact Analysis:** A summary of the calculated economic impact and FTE figures;
  - **Customer Satisfaction Data:** A summary of the data gathered by the Customer Satisfaction Survey; and,
  - **Key Findings and Observed Trends:** A review of the most striking finds of both surveys (and economic impact analysis), including any trends observed by Nordicity.

2. Industry Descriptions

The computer animation (CA) and digital visual effects (VE) industries in Ontario comprises companies that produce content and/or provide other services for film, television and digital media markets, in Canada and internationally.

For companies operating in this industry, the primary customer base includes film (and television) producers, distributors, content producers, video game developers, mobile application/content developers and television broadcasters.

Companies operating in the computer animation and VE industry also serve the commercial market by producing TV commercials, training materials, corporate communications, or music videos for brand owners, either directly or indirectly through an agency.

Some production companies operating in the computer animation and VE industry provide post-production services in-house, whereas other producers contract work out to specialty post-production service houses. Some producers do both.

2.1 Computer Animation

- Computer animation is the evolution of classical cel animation into digital technology. Of the numerous forms of commercial animation -- stop motion, Claymation (using Plasticine), cut-out and others – production of cel animation, in the style of traditional Disney and Looney Tunes cartoons has, for the most part, been supplanted by computer technology. This style of animation is often referred to as 2D animation reflecting the fact that visual elements (characters and environments) have no apparent volume – they are flat, two-dimensional objects.
- With the significant improvements in computer hardware and software during the past two decades, creating three-dimensional (3D) animation has become a commercially feasible process.
- The fundamental difference between 3D and 2D animation is the apparent depth and volume of the character models, environments and props. The first large scale, well-known project to use 3D technologies was the animated feature film *Toy Story*. Since its release in 1995, further developments in digital technologies have enabled the production of innumerable television and DVD projects which can now be produced with significantly lower budgets than those required for feature films.
- Of the programs commonly produced today, animated features are commonly produced as 3D animation in order to appeal to theatrical audiences. Programs for television are produced in both 2D and 3D animation.
- At its core, computer animation is an efficient production platform that is suited to simulating many other media. In some studios, computer animation is replacing many traditional types of animation, such as simulated stop-motion. The scope and definition of computer animation can be construed quite broadly ranging from traditional frame-based animation based on works created on a computer to complex 3D animation techniques.
- Typical services provided by CA studios include some or all of the following:
    - Design and consultation services
    - Storyboarding
    - Animatic reel creation
    - Digital element (e.g. characters, props, environments) creation
    - Animation sequence integration
    - Editing
    - Final output

2.2 Visual Effects

- Filmmakers use digital visual effects (VE) to modify, enhance and augment live-action cinematography. Digital VE, or simply VE, are a subset of visual special effects available to directors that enable realization of the visual aspects of film and television projects. Some of these effects can be "in-camera," involving the various technologies embedded in the

camera itself. Visual effects can also entail using manipulation of physical elements, lighting, makeup, prosthetics, creating virtual crowd scenes, and a host of other effects that have become commonplace in modern film and television production.

- Digital technologies permit filmmakers to surpass the constraints of physical reality. Typically VE include integration of digital elements into live-action cinematography, combining elements from multiple sources into composite images or creating photorealistic shots totally by computer.
- VE artists can create objects and effects that do not exist in reality – monsters, horror characters, a castle in the forest, a pig that talks, an exploding head – but that need to be realistic and believable. These elements thus must have photorealistic characteristics.
- Digital set extensions permit modification of film locations that extend beyond both physical reality and budget allowances. For example, using visual effects techniques to populate a crowd scene can lessen the cost of hiring extras to work on a particular shoot. In addition, VE can alter environmental elements such as making day night and vice-versa, creating storms, tornados, blizzards, fire storms, explosions, adding icy breath to a winter scene shot in July, showing the detail of a bullet in flight and replacing the hazardous work of stuntmen and women and animals with a process that has zero physical risk.
- The range of VE is wide and filmmakers' capacity to conceive of new ways to expand audiences' visual experience with creative use of VE technologies is constantly evolving.
- Typical services provided by CA studios include some or all of the following:
    - Design and consultation
    - On-set supervision
    - Pre-visualization
    - Digital element creation
    - Integration with live-action sequences
    - Matte painting, crowd replication, set extensions
    - Environmental element integration (e.g., fire, water, smoke, etc.)
    - Rig removal
    - Final output

2.3 Computer Animation and Visual Effects Workforce

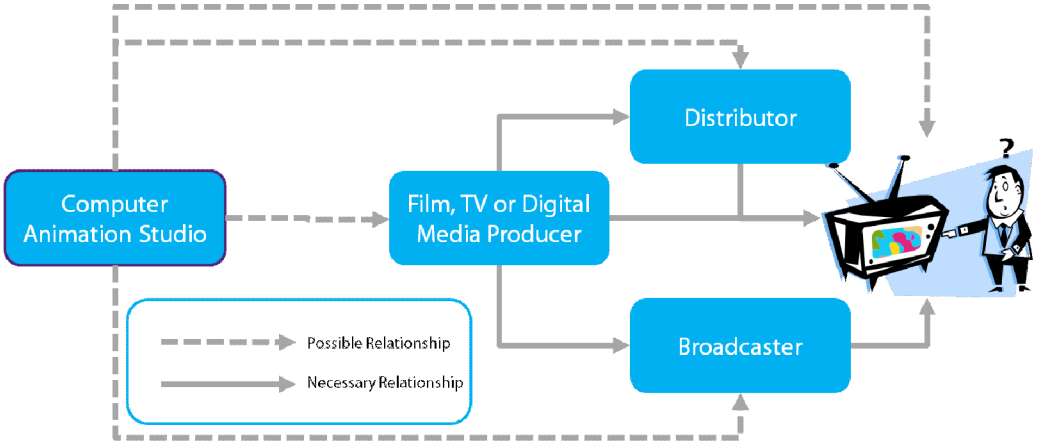
- Given an understanding of the types of products and services that CA and VE studios offer, it is critical to understand the types of skilled labour that are required for the industries to function.
- The CA and VE industries combine the work of individual artists (e.g., digital animators, storyboard artists, writers, etc.) with the skills of technical professionals (such as software developers or system administrators). At times, individual employees may possess both artistic and technical skills.

- These skilled employees are typically integrated into a production pipeline or other workflow process by creative and/or technical directors, producers, and production managers.
- CA and VE studios typically supplement artistic and technical staff with business/administrative staff including sales managers, production accountants, and other administrative support positions.

2.4 Industry Structure

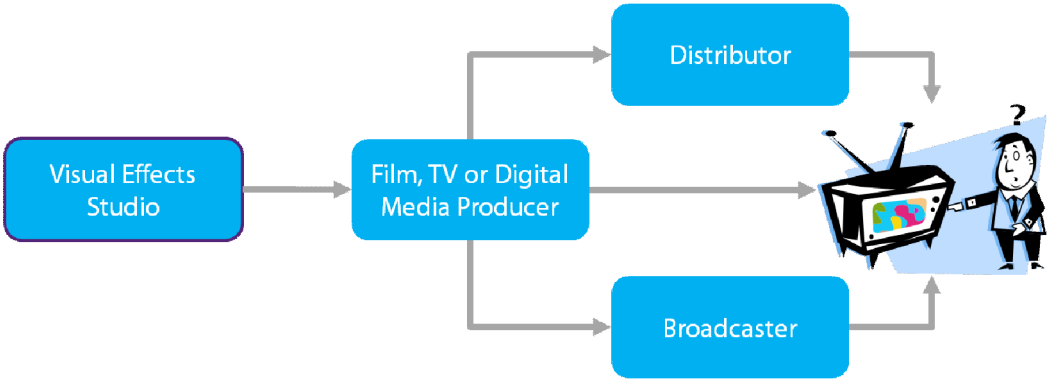
- In order to understand the economics of the CA and VE industries in Ontario, it is important to know how the businesses that comprise these industries operate. The following illustrations depict the typical business models for each industry.

Figure 1 - Computer animation industry structure



- As Figure 1 shows, there are several business models available to computer animation studios. They may opt to create content directly for audiences (and distribute the content themselves, e.g. through a website).
- Alternatively, the CA studio could opt to work with a distributor or broadcaster to distribute original content to audiences. Finally, a CA studio could supply content to a film, TV or digital media producer as a part of a larger production – typically as part of a fee-for-service arrangement.

Figure 2 - Visual effects industry structure



- As Figure 2 depicts, the visual effects industry has a somewhat more linear structure than the computer animation industry. VE studios typically provide services to film, TV and/or digital media producers in a fee-for-service relationship as part of a larger production.
- Notably, it is quite common for more than one visual effects studio to provide "shots" (i.e. visual sequences requiring digital manipulation) to a single production.
- While most studios specialize in one type of production (i.e., computer animation or visual effects), it is, of course, possible that a studio may exist in both the CA and VE industries.

3. Industry Profile Data

This section of the report provides data derived from the web-based survey of computer animation and visual effects companies operating in Ontario. The section is divided into sub-sections that mirror the structure of the survey questionnaire.

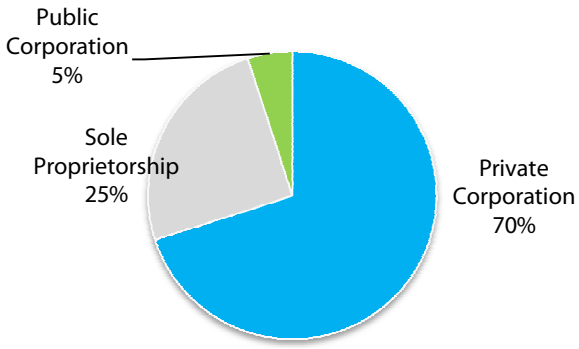
3.1 Corporate Profile

The corporate profile describes the nature of the firms operating in the computer animation (CA) and visual effects (VE) industry in Ontario.

3.1.1 Corporate Status

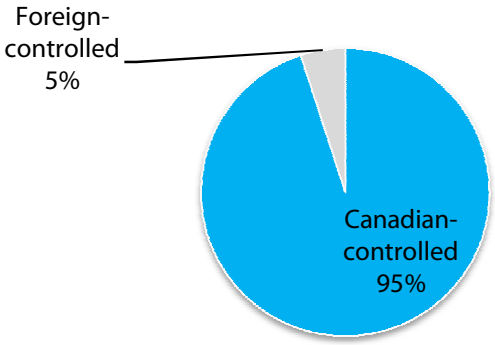
- As shown by Figure 3 (below), in 2010, most (70%) of the firms operating in Ontario's computer animation and visual effects industry were private corporations.

Figure 3 - Type of company (2010)



- Furthermore, only a small minority (5%) of companies operating in the CA or VE industry are public corporations.
- This distribution differs only slightly from the types of companies present in 2007, where 78% of companies were Private Corporations, 19% were Sole Proprietorships and 5% were Public Corporations.
- As of 2010, the vast majority of survey companies (95%) were Canadian-controlled, as depicted in Figure 4. This figure is similar to the 97% of companies that were Canadian-owned in 2007.

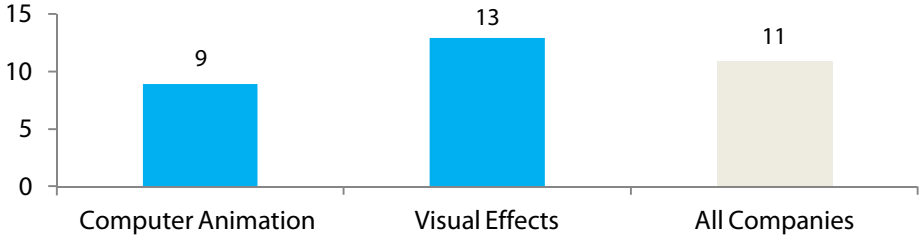
Figure 4 - Corporate control (2010)



3.1.2 Years in Operation

- As of 2010, the average age of a computer animation company in Ontario was 9 years, slightly less than the average of 13 years for visual effects companies. Figure 5, below displays the age of companies.

Figure 5 - Average age of companies (2010)



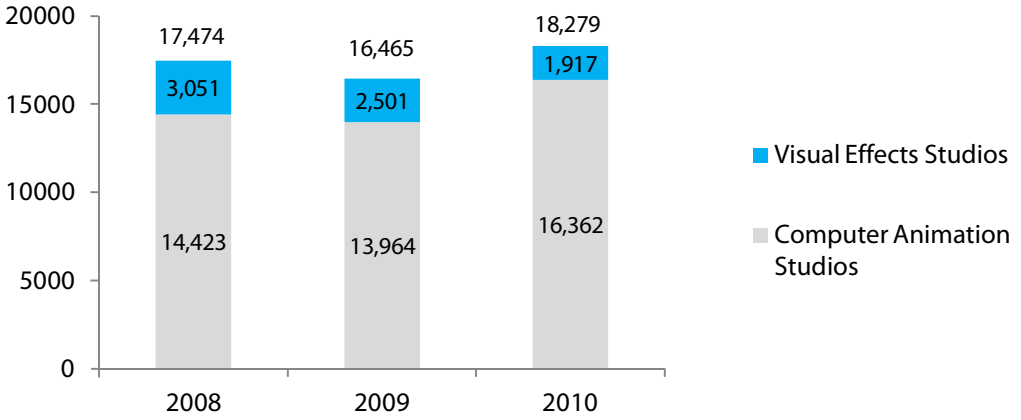
3.2 Production

- When examining an industry such as the CA or VE industry, one key measurement of success is the volume of production created in a given year.

3.2.1 Shots and Minutes Produced

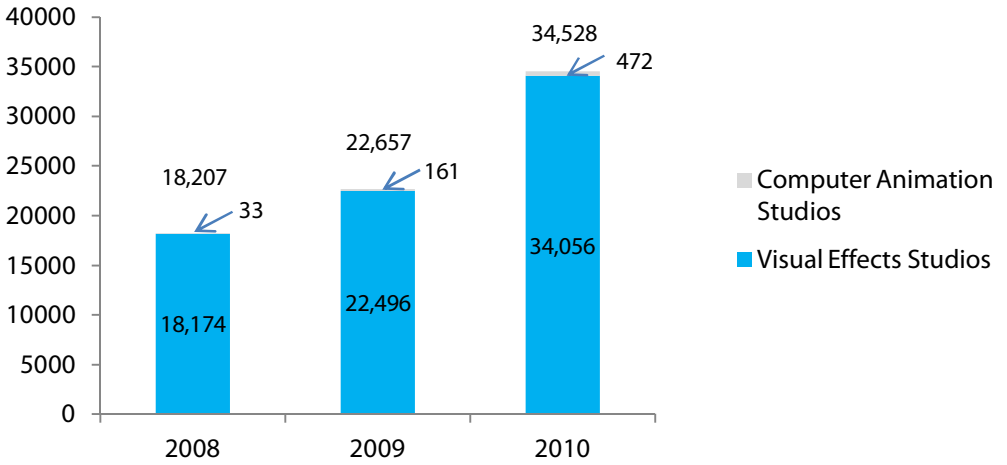
- Figure 6 (below) shows that for computer animation, the number of minutes produced dropped in 2009 (from roughly 17,500 minutes to approximately 16,500 minutes), but rebounded in 2010 (to roughly 18,300 minutes).
- The majority of these minutes were produced by dedicated computer animation firms. However, the portion of computer animation shots produced by visual effects studios has decreased at a compound annual rate of 14% since 2008.
- Overall, the number of minutes produced has grown by a compound annual rate of 1.5% since 2008.
- Furthermore, the number of minutes produced in 2008 was 21.3% higher than the 14,408 minutes of computer animation minutes produced in 2007.

Figure 6 - Estimated computer animation minutes produced (2008-2010)



- Since 2008, the number of visual effect shorts produced has grown substantially, as Figure 7 indicates. Over that period the number of shots produced has grown by a compound annual rate of 23.8%.

Figure 7 - Estimated visual effect shots produced (2008-2010)

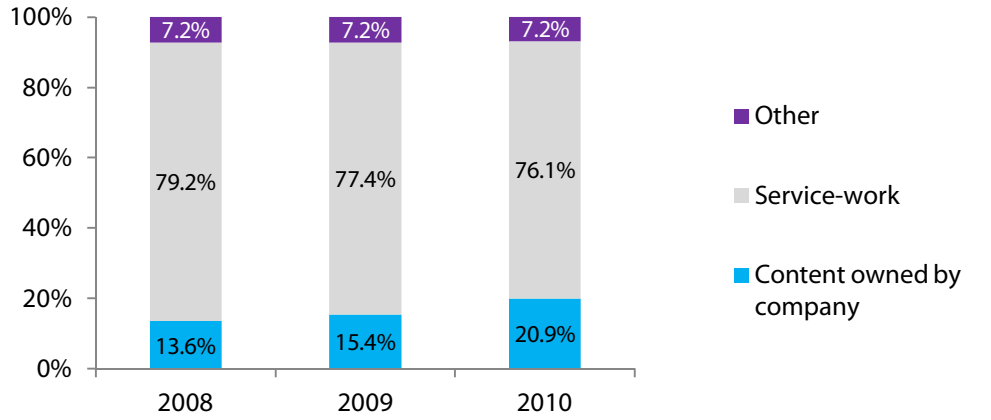


- While visual effects studios continue to account for the vast majority of this activity, the number of shots produced by computer animation studios has grown by 142% over this period.
- Due to a change in methodology from the 2008 report, the number of shots produced in 2008 through 2010 cannot be directly compared to 2007 levels.

3.2.2 Ownership of Content

- As Figure 8 shows, in 2010, roughly three quarters of all content produced by the CA and VE industry was service work.

Figure 8 - Content ownership by project (2008-2010)



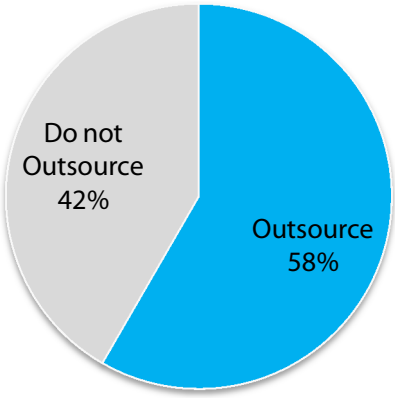
- Over time, it appears that Ontario studios are producing slightly more content than they own (13.6% in 2008 vs. 20.9% in 2010).

- This growth is a continuation of a trend from 2007, when 83% of projects produced by CA and VE firms were service-based.

3.2.3 Outsourcing

- As of 2011, a majority of surveyed firms currently outsource at least a portion of their work.

Figure 9 - Outsourcing of work (2011)



- Of those 7 firms that outsource some of their work, the most common reason was "Insufficient capacity in home studio," (4 responses) while the second most popular reason was the "Low cost of labour" (3 responses) in the jurisdiction to which the work is outsourced.
- Of these 7 outsourcing firms, 5 outsourced work to other firms in Ontario, while the remaining two outsourced to South America and Eastern Europe.
- The rate of outsourcing in 2011 has increased from 2007 levels, when only 39% of firms reported that they outsourced to other firms.

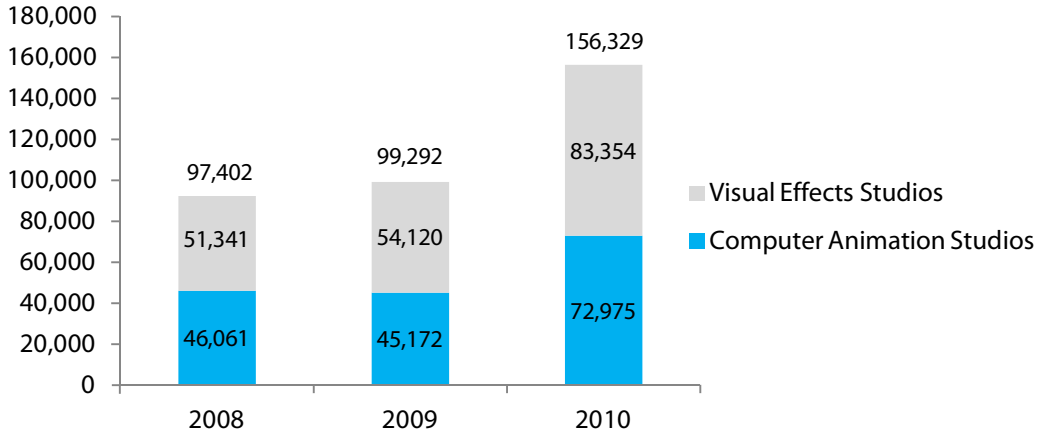
3.3 Financial Profile

This section of the report outlines the financial reality of the CA and VE industry in Ontario. In so doing, it expands upon the revenues, expenditures and profits of CA and VE companies. It also highlights the initial and on-going capitalization of these companies.

3.3.1 Operating Revenue

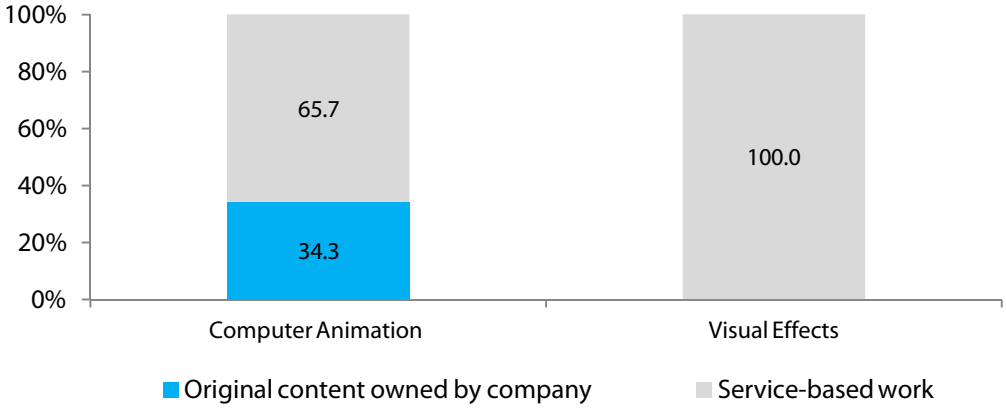
- As the following Figure 10 illustrates, revenue growth was flat between 2008 and 2009, but picked up substantially between 2009 and 2010. For the three year period, revenue grew by a compound annual rate of 17.1%.

Figure 10 - Estimated operating revenue (2008-2010, in $000s)



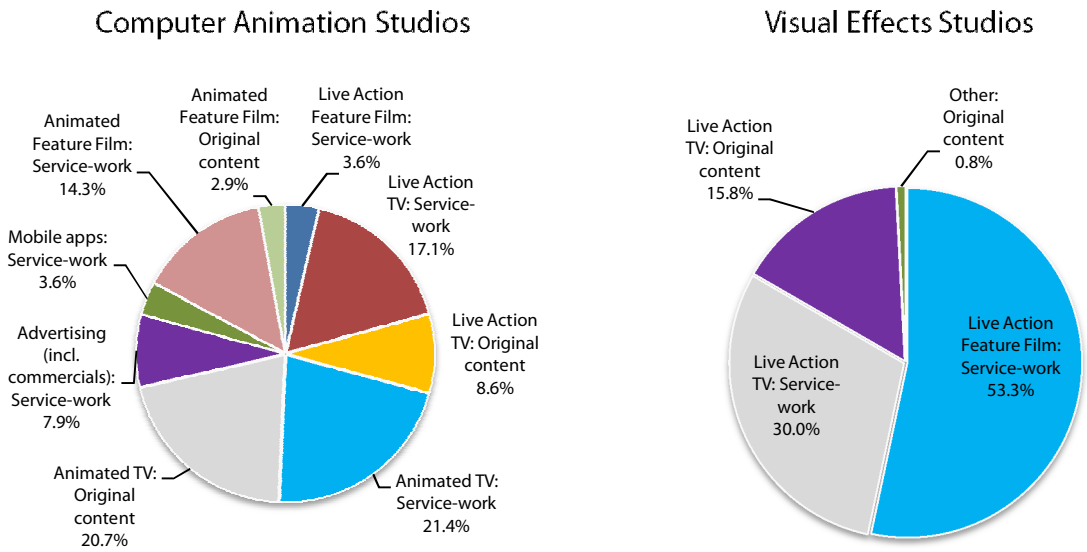
- This growth appears to have been quite similar in CA studios (16.6%) and VE studios (17.5%).
- As the estimated revenue generated by the CA and VE industries in 2007 was roughly $128,100,000, the 2008 revenue represented a 24% decrease. By 2010, however, revenue had rebounded to 122% of 2007 levels.
- As the following Figure 11 illustrates the clear majority of this revenue was generated through service-based work.

Figure 11 - Revenue by type of work (2010)



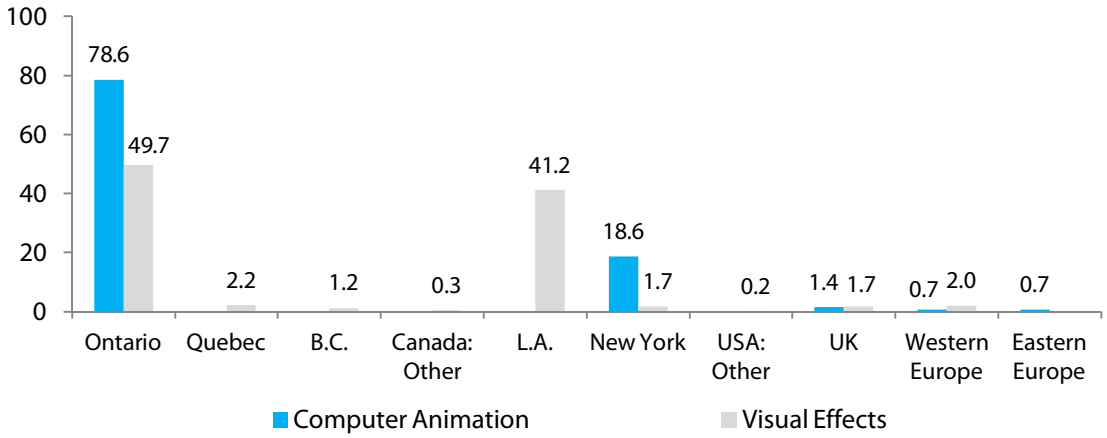
- All revenue generated by visual effects studios was service-based work, while nearly two-thirds (65.7%) of revenues generated by computer animation studios was derived from service-based work.
- In terms of the product lines that generate revenue, the following Figure 12 illustrates that CA studios generate revenues from a far greater number of sources than VE studios.

Figure 12 - % revenue by product line (2010)



- Clearly, service work on live action feature films (53.3%) and service work for live action TV (30%) make up the largest part of visual effects studios' revenues.
- At the same time, service work for live action TV (27.9%), service work for animated TV (21.4%) and original work for animated TV (20.7%) make up the bulk of revenues for computer animation studios.
- As Figure 13 indicates below, the bulk (78.6%) of revenues in the CA industry and nearly half (49.7%) of the revenues from VE studios are generated from within Ontario.

Figure 13 - % revenue by territory (2010)



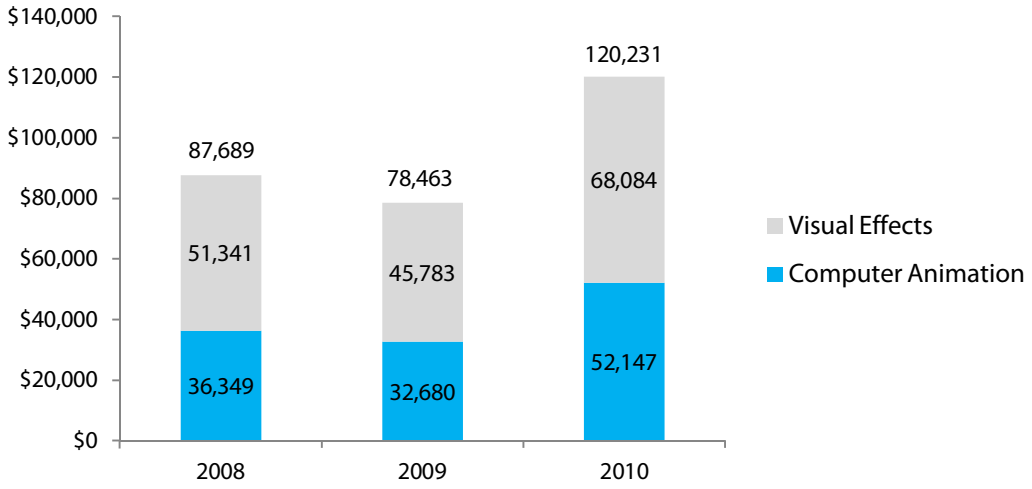
- That said, a very significant amount of visual effects work comes from Los Angeles (41.2%), while New York contributes 18.6% of revenues to computer animation companies.

- While these findings are roughly consistent with the 2007 findings, CA studios are more focused on the Ontario market in 2010 (78.6% rather than 53.7% in 2007), though the revenue generated from New York has not changed (18.6% in both 2007 and 2010). Less revenue, it seems, is being generated (by CA studios) from Europe and other parts of the United States.
- For VE firms, the major sources of revenue have not significantly changed from 2007, with Ontario and Los Angeles remaining the principal sources of revenue. Ontario accounted for 43.6% of revenue in 2007 (slightly less than the 49.7% in 2010), while Los Angeles-based projects generated 36.2% of VE revenue in 2007, somewhat less than the 41.2% of revenue generated from L.A. in 2010.

3.3.2 Operating Expenditures

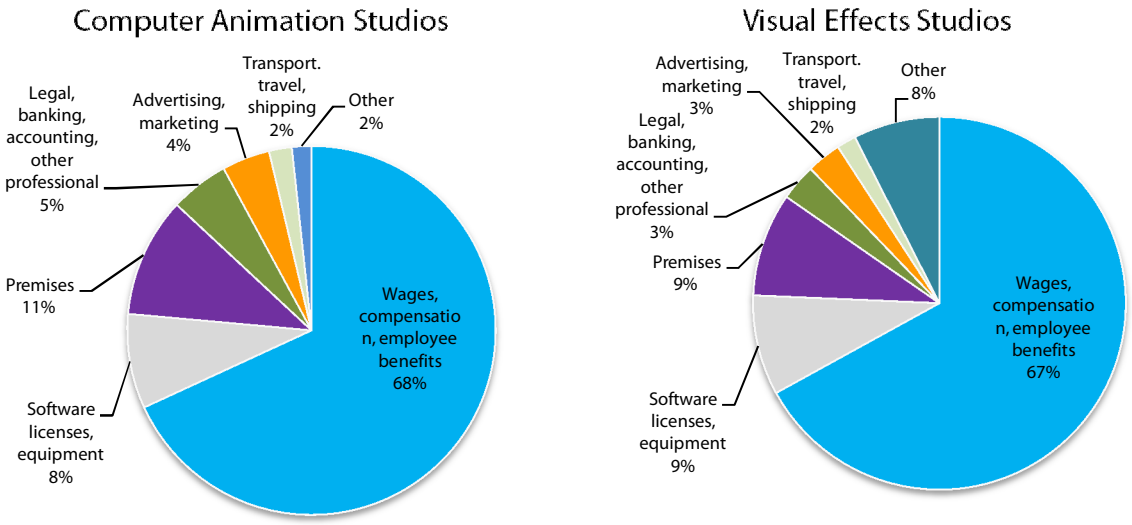
- As the following Figure 14 indicates, the industry saw a decline in expenditures in 2009 (from 2008), but has seen a significant growth in expenditures in 2010.

Figure 14 - Estimate of expenditures in $000s (2008-2010)



- Over this three-year period, expenses grew for CA studios at a rate of 12.8%, which is slightly faster than the 9.9% growth rate of VE studios' expenses.
- The $87.7 million of expenditures spent by CA and VE studios in 2008 represents a 3.8% decrease from 2007 levels ($91.1 million).
- For both CA and VE companies, two thirds of all expenditures (in 2010) were labour-based (i.e. wages, compensation, and employee benefits). Further detail on expenditure categories is presented in Figure 15.

Figure 15 - % expenditures by expense category (2010)

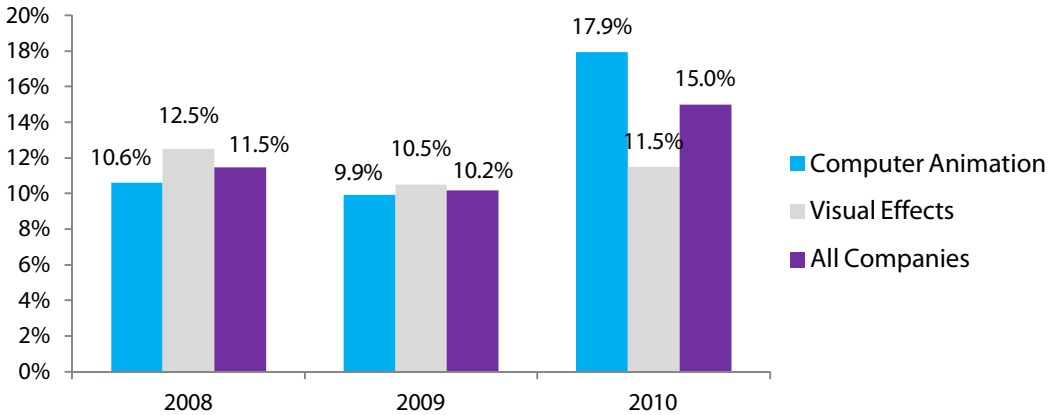


- While expenditures on wages, compensation and employee benefits have not changed significantly from 2007 (when they accounted for 64% of all expenditures), the portion of expenditures spent on software, licenses and equipment has decreased from 18% in 2007 to less than 10% in 2010 (for both the CA and VE industries).

3.3.3 Operating Profits

- As Figure 16 (below) indicates, though there may have been a dip in production between 2008 and 2009, overall profit margins only fell by 1.3% (from 11.5% in 2008 to 10.2 % in 2009).

Figure 16 - Profit margins (2008-2010)

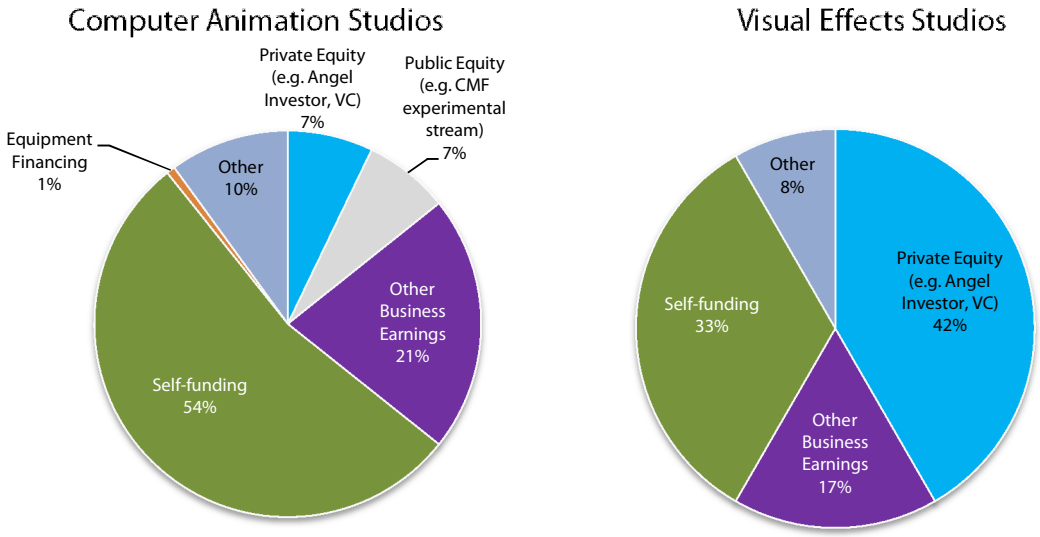


- Perhaps the most striking change from 2008 to 2010 is the increased profitability of VE studios. Whereas in 2008 and 2009 VE studios lagged behind their CA counterparts, in 2010 VE studios were 6.3 percentage points more profitable then CA studios.

3.3.4 Capitalization

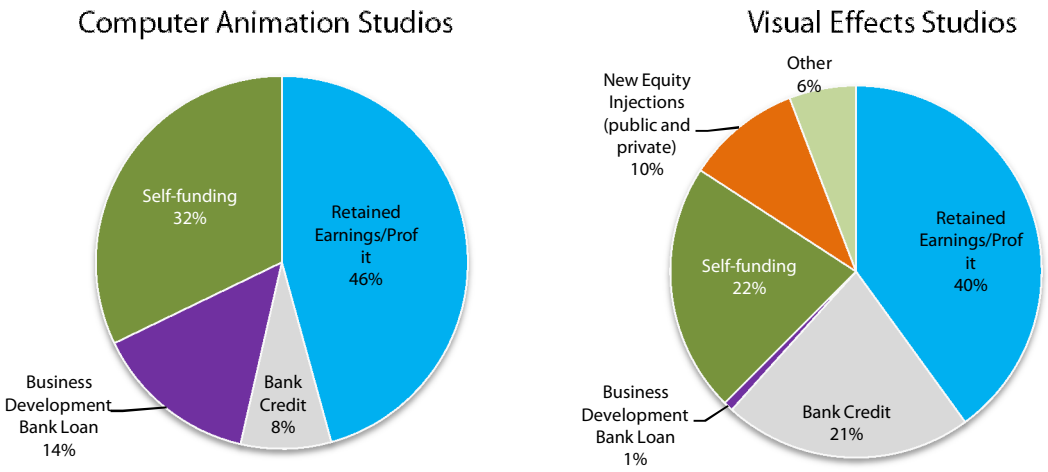
- To examine studios' capitalization, we examine both the initial capitalization of a firm, and its on-going sources of capital.
- To that end, Figure 17 shows that CA studios in Ontario tend to have received most (53.6%) of their initial capitalization from self-funding. On the other hand, VE studios seem to have attracted significant interest (41.7%) from private investors.

Figure 17 - % sources of initial capitalization



- On an on-going basis, studios must continue to raise funds to finance their operations. Figure 18 depicts the sources of these funds.
- In 2007, roughly 28% of initial capitalization for CA firms was derived from private equity, which is a significantly higher portion than the 7% reported by CA firms operating in 2011. Correspondingly, CA firms operating in 2007 reported that only 39% of initial capitalization was self-financed, as opposed to 54% in 2011.
- For VE studios, firms operating in 2007 reported that 44% of initial capitalization was self-financed, as compared to 33% in 2011. Conversely, whereas VE firms operating in 2011 reported that 42% of their initial capitalization was supplied by private equity, VE studios operating in 2007 reported that private equity accounted for only 18% of initial capitalization.

Figure 18 - % sources of on-going capitalization

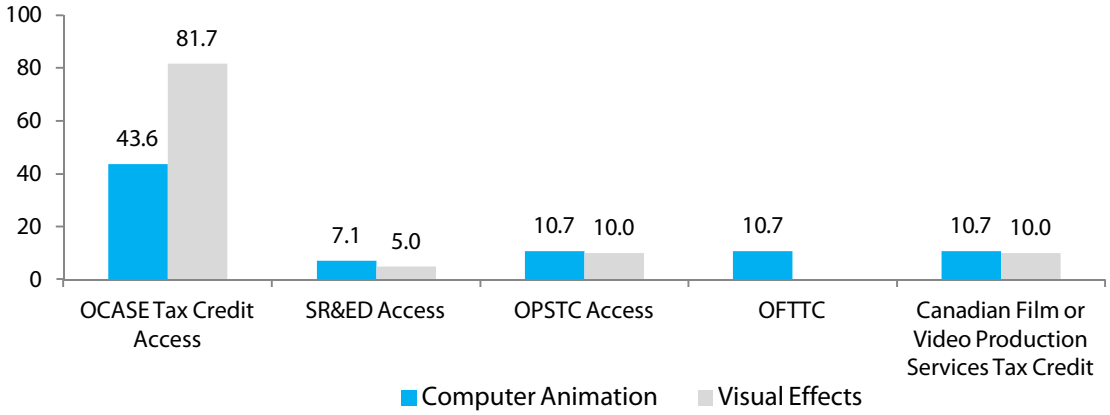


- As the figure above illustrates, retained earnings (i.e. profits) make up the largest share of on-going capitalization for both CA and VE studios. However, CA firms continue to self-fund to a greater extent than VE studios. Conversely, VE studios are more likely to obtain bank credit and/or new equity injections.
- In 2007, both CA and VE firms reported that roughly 56% of on-going capitalization came from retained earnings, with roughly 15% of on-going capitalization being supplied from both bank credit and new injections of private capital. In 2011, retained earnings account for less on-going capital, while a greater reliance on self-funding has emerged (32% of on-going capitalization for CA studios and 22% for VE studios).

3.3.5 Use of Public Incentives

- As with many creative and cultural industries in Canada, CA and VE studios operating in Ontario have access to a range of public support options. The following Figure 19 depicts the percentage of projects that access various support options.
- The public support options presented to respondents were the Ontario Computer Animation and Special Effects (OCASE) Tax Credit, Scientific Research and Experimental Development (SR&ED) Tax Credits, the Ontario Production Services Tax Credit (OPSTC), the Ontario Film and Television Tax Credit (OFTTC), and the Canadian Film or Video Production Services Tax Credit (CFVPSTC).

Figure 19 - Access to public support programs as a % of projects (2010)



- As the above chart shows, the most popular public support vehicle is the OCASE Tax Credit (administered by the OMDC) with 43.6% of computer animation projects and 81.7% of visual effects projects produced in 2010 having accessed the Credit.
- Of the 9 studios that indicated that they produced projects that did not access the OCASE tax credit, six out of the nine reported that they did not apply because the project in question was ineligible to receive tax credit support.
- Since 2007, the rate of use of the OCASE tax credit for CA projects has decreased from 88% of projects to less than 44% of projects in 2010 (a 50% drop). Similarly, the use of SR&ED tax credits (19% in 2007), the OPSTC (25% in 2007) and OFTTC (13% in 2007) have all decreased.
- A decrease was also observed for VE studios, where the instance of OCASE access fell from 92% in 2007 to 82% in 2010. Over the same period SR&ED and OPSTC access fell from 25% (for each tax credit) to 10% and 5% respectively.

3.4 Employment and Jobs

This section of the report details employment in the computer animation and visual effects industry in Ontario, as evidenced by the survey results. In so doing, we discuss the following types of employees:

- **Artistic**: such as designers, layout artists, modelers, riggers, animators, etc.
- **Technical:** such as systems operators, programmers, network and communication specialists, etc.
- **Administrative**: such as CTO, CFO, production management, sales, marketing, PR, finance, etc.

This section also refers to contract and freelance employees. For this study we understand contract employees to be individuals hired on a short-term basis, either full or part-time, whereas freelancers are self-employed workers (including personal corporations).

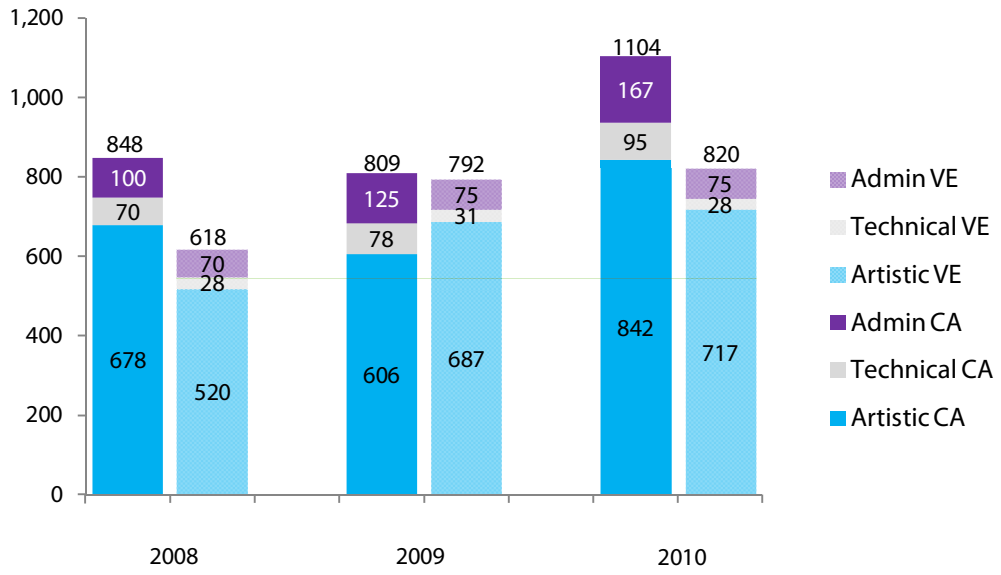
Finally, this section refers to different levels of seniority among CA and VE workers. We have defined these levels of seniority as follows:

- **Senior**: five or more years of directly relevant experience
- **Intermediate**: 2 to 4 years of directly relevant experience
- **Junior**: fewer than 2 years of directly relevant experience

3.4.1 Employment by Job Type

- As the following Figure 20 indicates, employment in the CA industry dipped in 2009, but rebounded in 2010. On the other hand, employment among VE studios grew more between 2008 and 2009 (by 28%) than between 2009 and 2010 (by only 3%).

Figure 20 – Total employment by job type (2008-2010)

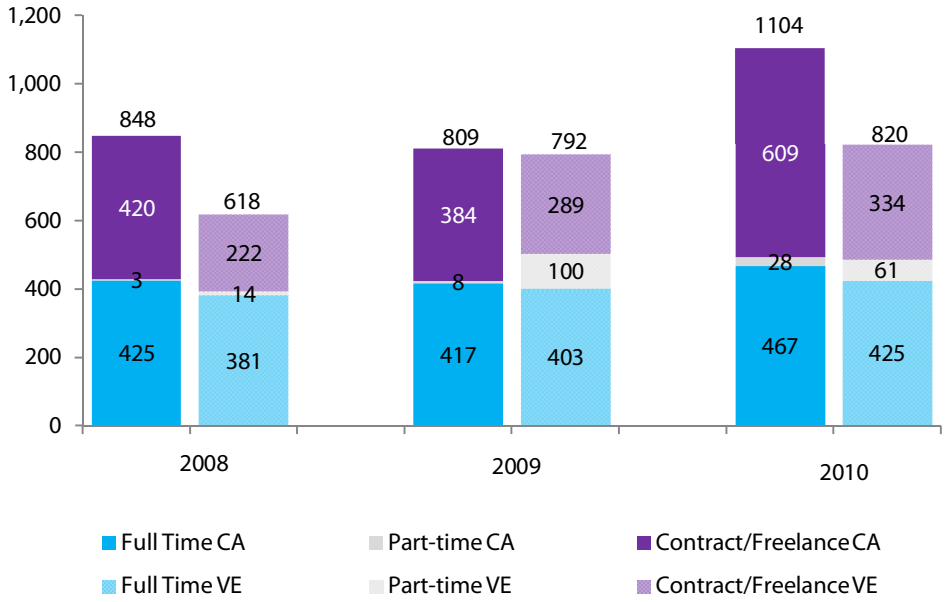


- In both industries, the vast majority of employees are artistic employees, though computer animation companies seem to maintain slightly more technical and administrative staff.
- In total, 1466 people were employed by the combined CA and VE industries in 2008, which grew by 9.2% to 1601 in 2009, and again by 20.2% to 1924 persons by 2010. From the 1285 people employed in the two industries in 2007, 2010 levels represent a 49.7% increase over four years.

3.4.2 Employment by Employment Status

- While CA studios did see a significant growth in employment in 2010 (from 2009 levels), the vast majority of that growth was derived from contract and freelance labour, as shown by Figure 21.

Figure 21 – Total employment by status (2008-2010)

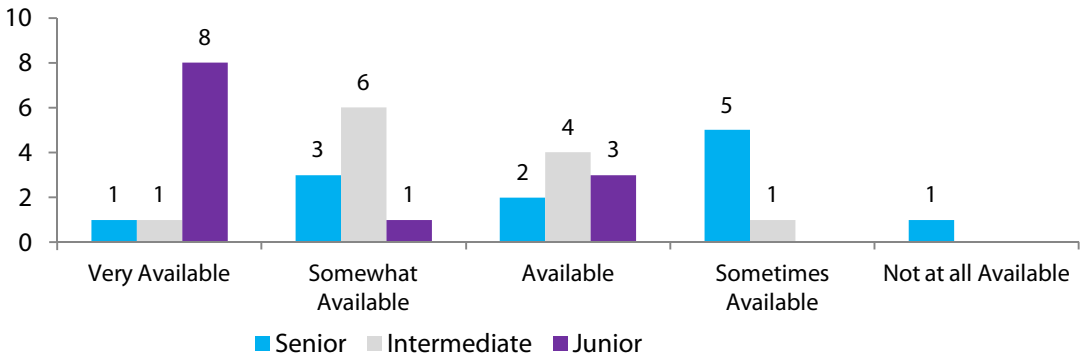


- Indeed, full time employment in both the CA and VE industries has been relatively stable since 2008. CA firms' full time staffs have grown at a compound annual rate of 3.2% since 2008, while VE studios full time staffs have grown by 3.8% over the same period.

3.4.3 Availability of Talent

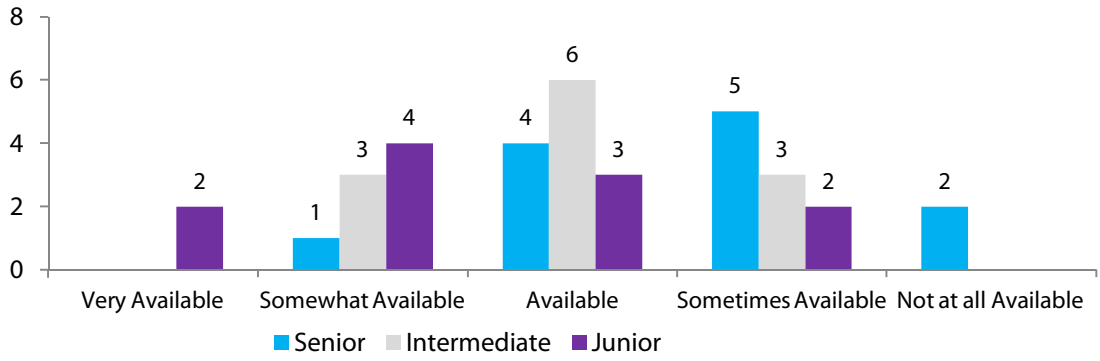
- Another important element of the employment picture in Ontario's CA and VE industries is the availability of that talent.
- As the following Figure 22 indicates, senior staff members seem to be somewhat less available for artistic positions, while junior staff members are readily available.

Figure 22 - Artistic talent availability (by # of responses, 2011)



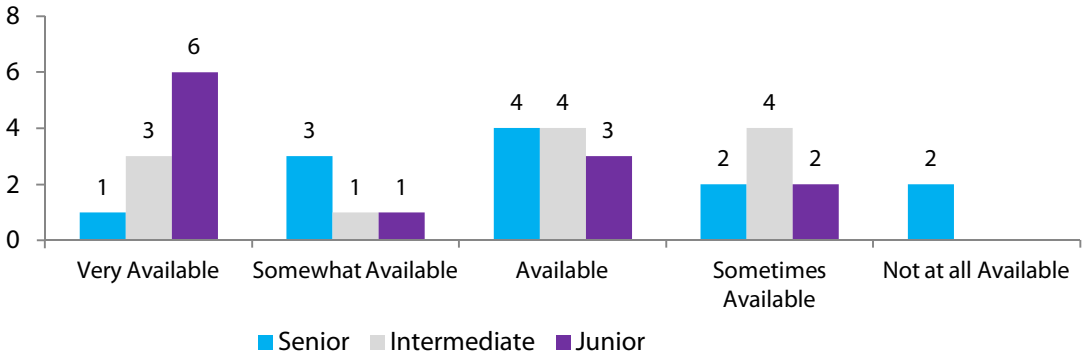
- As depicted by Figure 23, senior technical staff members are also somewhat less available to studios, while intermediate and junior staff members are only slightly more available.

Figure 23 - Technical talent availability (by # of responses, 2011)



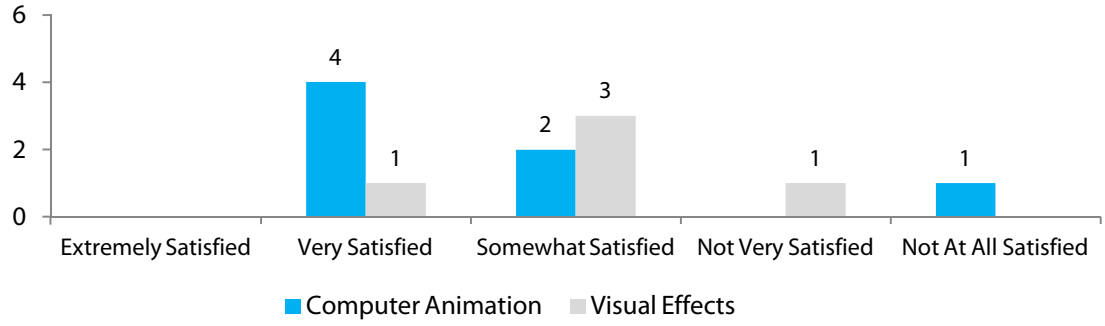
- Figure 24 shows that administrative staff is available at the junior and intermediate level, while there is no clear position among respondents as to the availability of senior administrative talent.

Figure 24 - Administrative talent availability (by # of responses, 2011)



- As new talent is clearly most available at the junior level for all types of positions, it is important to gauge studios' views as to the preparedness of these new workers.
- To that end, Figure 25 shows that CA studios seem to be somewhat more satisfied with their new junior hires than their VE counterparts.

Figure 25 - Level of satisfaction with new graduates (by # of responses, 2011)



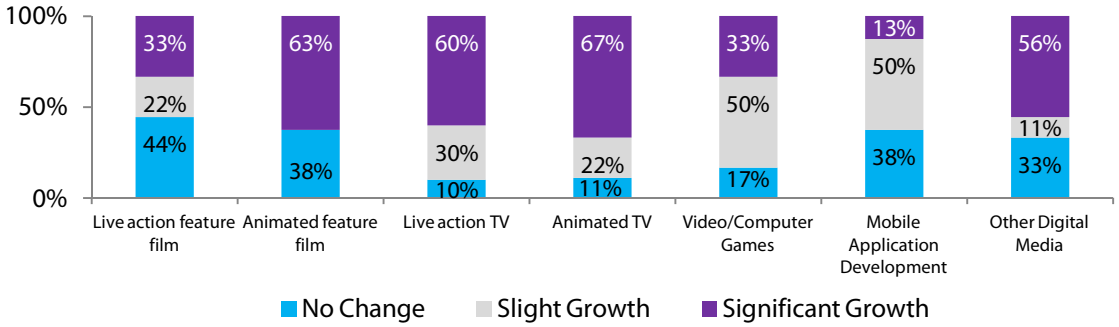
3.5 Future Outlook

- In the final section of the questionnaire, firms were asked to report on their outlook for the future of the CA and VE industries in Ontario.

3.5.1 Outlook of Companies

- As the following Figure 26 indicates, the studios polled viewed animated TV and live action TV as the most promising areas for future growth.

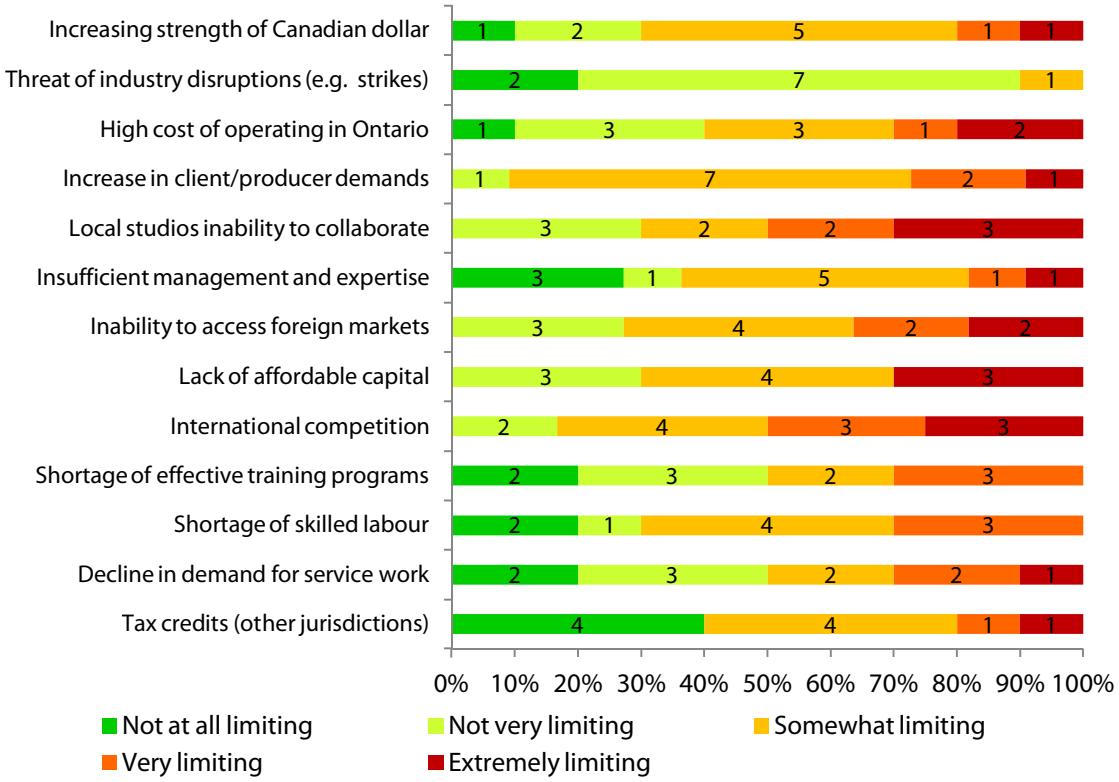
Figure 26 - Future outlook by industry segment



3.5.2 Perceived Barriers to Growth

- Studios were also asked about issues that may hinder their growth; the following Figure 27 outlines studios' perception of these barriers.

Figure 27 - Perceived barriers to growth (by # of respondents, 2011)



- According to the polled CA and VE studios, the biggest issues were the inability of firms to collaborate and international competition.
- International competition was the most common barrier to growth reported in 2007, followed by the strength of the Canadian dollar, the high cost of operating tin Ontario, the decline in demand for service work and local studios' ability to collaborate. As such, some concerns (collaboration and international completion) seem to be consistent challenges for the CA and VE industries in Ontario.

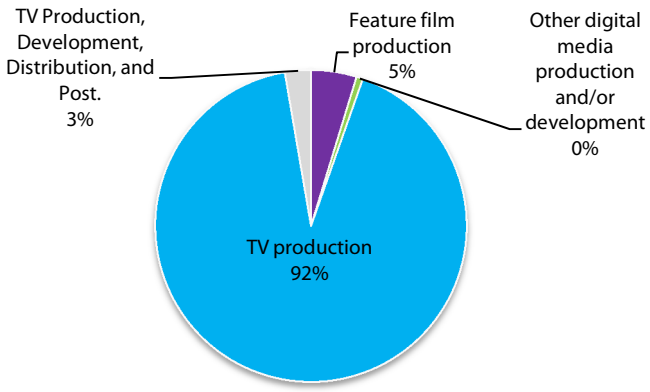
4. Customer Satisfaction Survey

This section of the report provides data on the satisfaction of the clients of computer animation and visual effects studios in Ontario. The survey was developed specifically to collect information on the strengths and weaknesses of Ontario firms in delivering, meeting and/or exceeding their customers' expectations. Twenty-three clients of Ontario-based firms responded to the customer satisfaction survey.

4.1 Recent Projects

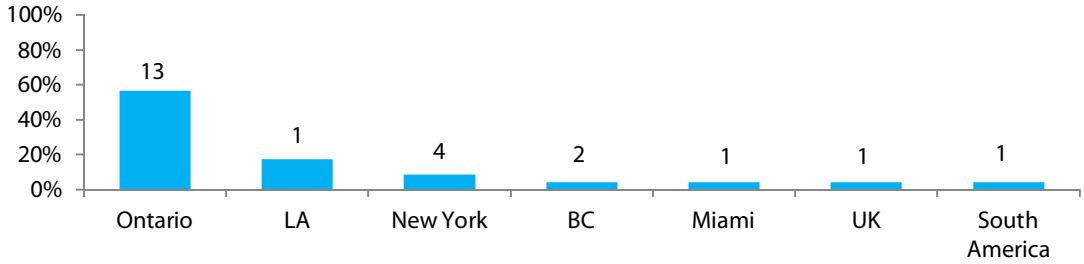
- As Figure 28 below indicates, of the 23 firms that responded to the Customer Satisfaction survey and worked with an Ontario-based studio, the vast majority (91.9%) of the projects belonged to the TV Production segment.

Figure 28 – Number of Ontario-based studio projects in past 12 months by market segment



- Well below TV production is Feature Film Production (4.7%), TV Distribution and Post-Production (2.7%) and Other Digital Media Productions (0.7%).
- As depicted in Figure 29 below, the majority (56.5%) of respondents are based in Ontario, followed by LA, New York and BC with one respondent based in each of Miami, UK and South America. In other words, 60.9% of client respondents were based in Canada and 39.1% are international in nature.

Figure 29– Location of client satisfaction survey respondents

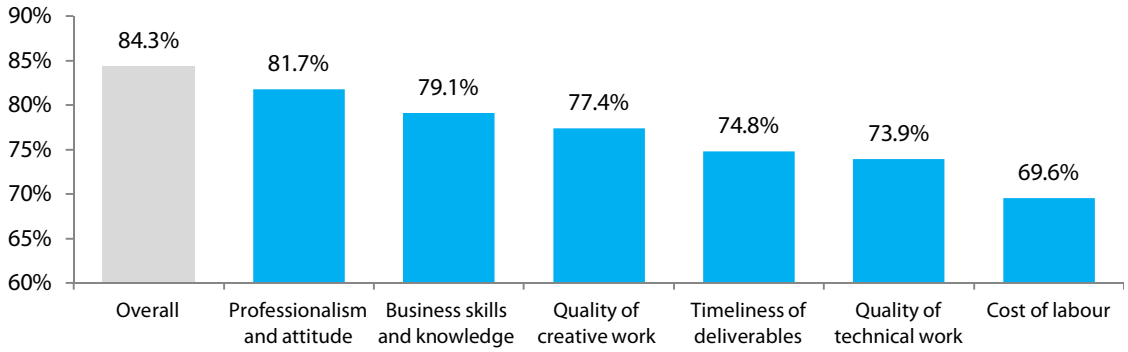


4.2 Customer Satisfaction Rankings

- Clients were asked to rate Ontario-based CA and VE studios on various criteria according to a five point satisfaction scale ranging from "Not at all Satisfied" to "Very Satisfied." Each point on the scale was assigned a score between 1 and 5. The scores were tallied for each criterion and subsequently divided by the total possible points that could be awarded in a given criterion, leading to the percentage scores (as shown below in Figure 30).

- When asked to rank satisfaction with various aspects of the work completed by Ontario-based studios, firms ranked 'Professionalism and attitude' (81.7%), 'Business skills and knowledge' (79.1%), and the 'Quality of creative work' (77.4%) as the top three criteria.

Figure 30 – Satisfaction with Ontario-based studios

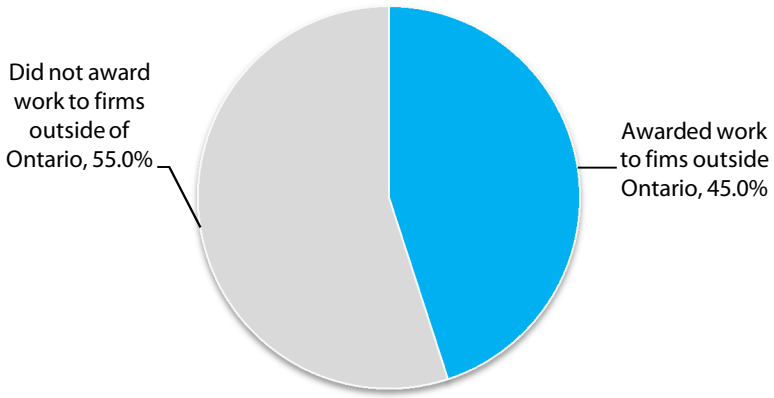


- The three lowest-rated criteria, as rated by client-respondents, were 'Cost of labour' (69.6%), 'Quality of technical work' (73.9%), and 'Timeliness of deliverables' (74.8%).
- 'Overall satisfaction' – which was asked as a standalone criterion and not derived from the average of all of the criteria -- was the criterion rated the highest by client firms.
- No client rated any criteria as 'Not at all satisfied' or 'Not very satisfied.'

4.3 Losses to Other Jurisdictions

- Of the firms that responded to the client satisfaction survey, 11 firms (55%) did not award any work outside of Ontario in the past 12 months, while 9 firms (45%) did.

Figure 31-% of firms that have awarded a contract outside of Ontario in the past 12 months



- "Cost of Labour" was cited most frequently as the reason firms looked outside of Ontario for Computer Animation and visual effects work.
- Other reasons cited by survey respondents included:
    - "Greater talent base in Vancouver for the specific purposes of the project;"
    - "Los Angeles Tax incentive and good price point. Ease of execution with local company," and;
    - "More attractive package from Montreal Studio - they brought equity investment as well as PSTC to offer better price/value to the project."

5. Economic Impact Analysis

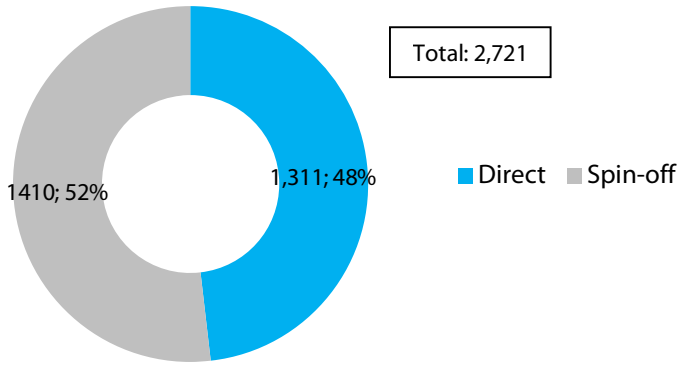
5.1 Direct Economic Impact

- The total direct economic impact of activity in the visual effects and computer animation industries is approximately $82.9 million. Direct economic impact is based on a combination of a portion of an industry's direct output[3] and the wages it pays to employees.

5.2 Industry Employment in FTEs

- The Computer Animation and Visual Effects industry in Ontario leads to the employment of approximately 2,721 full-time equivalent jobs (or FTEs) in the province.
- The FTE figure is attained by taking the total hours worked divided by average annual hours worked in full-time jobs. The FTE figure is useful because it allows for comparisons across industries and time periods.

Figure 32 – FTE employment, direct and spin-off



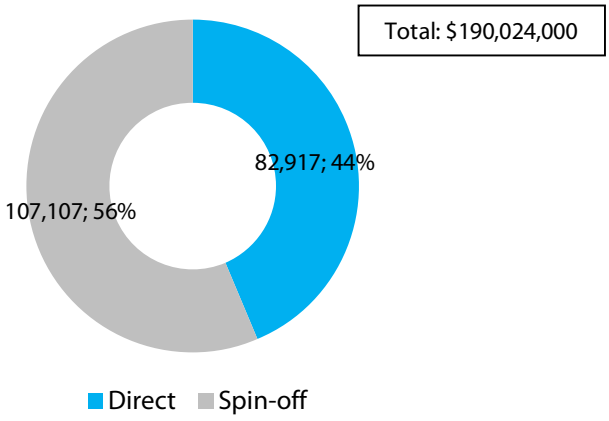
[3] "Output consists of those goods or services that are produced within an establishment that become available for use outside that establishment, plus any goods and services produced for own final use." Organisation for Economic Co-operation and Development (OECD) Glossary. http://stats.oecd.org/glossary

- As shown in Figure 32 (above), the total figure of 2,721 is composed of 1,311 directly employed FTE's and approximately 1,410 spin-off FTEs.

5.3 Spin-off and Total Economic Impact

- Where the direct economic impact relates to GDP, wages and output as described previously, we refer to indirect and induced economic impacts as spin-off. Spin-off economic impact results from the computer animation and visual effects industry's purchase of goods and services from other industries (indirect), and the economic activity generated by the re-spending of income and profits within the Canadian economy (induced).
- In 2010, the computer animation and visual effects industries indirectly generated $34.5 million towards provincial GDP. At the same time, the induced impact of the industries was $72.6 million in 2010.
- Combined with the direct impact, the spin-off yields a total economic impact of $190 million, as indicated by Figure 33 below.

Figure 33 - Contributions to GDP by the CA and VE industries (in $000s, 2010)



6. Key Findings and Observed Trends

Based on the survey findings and economic analysis presented in the preceding section, Nordicity is able to establish some key findings – and to observe a number of interesting trends.

6.1 Industry Growth

- Despite a small dip in **production levels** in 2009 in the computer animation (CA) 2010 saw a rebound. That said, the 2010 growth was somewhat limited (up 10% from 2009 levels). Meanwhile, in the VE industry production levels grew significantly (in terms of number of shots completed) between 2008 and 2010.

- **Revenue** levels in both the CA and VE industries grew significantly in 2010 (from 2009 levels) after being relatively flat between 2008 and 2009. Over the three year period in question, both industries' revenue levels saw around a 17% annualized compound growth rate.
- As one might expect, **expenditure levels** roughly follow the trend of production and revenue – with a dip in 2009 and a significant rebound in 2010. Over the three year period, CA expenses seemed to grow (at 13% compound annual growth) slightly faster than VE expenses (which grew at a rate of 10% compounded annually).
- In 2010, the majority of these expenses (roughly 2/3) were wages, compensation and employee benefits.
- Combining the above, it was observed that **profit margins** in the CA industry have come to exceed that of the VE industry. In 2008, the CA industry had an average margin of 11%, which grew to 18% in 2010. At the same time, the VE studios' 13% margin in 2008 shrunk slightly to 12% in 2010.

6.2 Products and Territories

- In terms of **product lines** the VE industry relies heavily on three types of projects: live action feature film service work, live action TV service work, and live action TV original content. Conversely, CA studios in Ontario derive revenue from a wide variety of product types.
- Indeed, 100% of reported revenue (in 2010) in the VE industry was from service-based work, while just over 1/3 of revenue in the CA industry was generated by original content.
- When examining the **territories** where CA and VE studios generated their revenue in 2010, it was observed that most (79%) of the CA work reported came from Ontario, with New York accounting for another significant portion (19%). For VE studios, Ontario was also the largest source of revenue (50%), while Los Angeles was also a very important source of revenue (41%).

6.3 Capital and Funding

- In terms of **initial capitalization**, CA relied heavily on self-financing (54%) to start their firms. While VE firms also used self-funding (making up 33% of initial capital), they were far more successful in attracting private equity, which accounted for 42% of VE studios' initial capitalization.
- The two industries are somewhat more similar in terms of sources of **on-going capital,** with retained earnings accounting for 46% and 40% of CA and VE capital, respectively. Again, while both types of studio will rely on self-funding, CA studios (at 32%) are more dependent on this type of financing than VE studios (at 22%). On the other hand, VE studios seem to be somewhat more successful in attracting bank credit (which accounts for another 22% of VE studios' on-going capital).

6.4 Jobs and Employment

- Looking at **employment levels in total**, one sees that CA studios saw a small dip in employment in 2009, but rebounded strongly in 2010. VE studios, on the other hand, experienced more significant growth between 2008 and 2009. By 2010, CA studios had

grown at a compound annual rate of 9% (from 2008 levels) while the VE industry grew by 10% over the same period.

- When employment is examined by **type of position**, it is clear that the distribution of artistic, technical, and administrative staff has remained fairly constant since 2008 – with artistic staff accounting for 81% of all employees in 2008 and 81% in 2010.
- Digging deeper into employment, it is interesting to note the change in **employment status** from 2008 to 2010. Over the three year period (2008-2010), the level of full time employment remained roughly flat (at between 417 and 467 for CA studios; and 381 and 425 for VE studios). However, the percentage of the industry that is made up of contract and/or freelance employment has grown among CA firms. In 2008 contract/freelance workers accounted for 50% of all CA employees, while in 2010 that portion had grown to 55%.

6.5 Future Growth and Barriers

- Bucking the conventional wisdom to some extent, studios polled suggested that the most likely sources of **future growth** for their companies lay with live action and animation TV, while live action feature film and mobile applications were thought to be the least likely prospects for growth.
- In terms of achieving this growth, the most commonly identified **barriers to growth** were international competition and the inability to access foreign markets. Lack of affordable capital was also identified as a significant issue.

6.6 Customer Satisfaction

- Of those customers that responded to the survey, the vast majority (92%) commented on TV productions and most were from Ontario.
- Overall, customers were very satisfied with the work of Ontario-based studios. That said, the customers were **least satisfied** by the cost of labour in Ontario (which scored 70%) and the quality of technical work (74%).
- Of those customers surveyed, 45% opted to select a firm outside of Ontario. Of these firms, the most common reason given for this decision was, unsurprisingly, the cost of labour in Ontario.

6.7 Economic Impact

- The **direct economic impact** of the CA and VE industries in 2010 was $83 million.
- The **total impact including spin-off impacts** of the two industries in 2010 totaled more than $190 million.
- In terms of **FTEs**, the combined CA and VE industries generated employment for 2,721 people in Ontario in 2010. This figure includes direct and spin-off (i.e. indirect and induced) employment.

Appendix A: Survey Questionnaires

A.1 Economic Profile

Introduction

Nordicity, on behalf of CASO, has prepared this online survey to collect information on the issues and challenges facing businesses in Ontario's computer animation and visual effects industry. Your input is vital to developing:

- inputs for the analysis of relevant economic data and industry benchmarks;
- public and private incentives;
- valid insight into market changes;
- critical success factors for the growth of computer animation and visual effects companies.

In order to complete this questionnaire, you will require access to project and financial information for the fiscal years ending in 2008, 2009 and 2010.

All of your responses to the survey will be kept strictly confidential. The information collected will be used in aggregate in order to improve programs and policies that serve the industry. Only the survey company will see individual company information. The CASO board, its members and/or our funding sponsors will have no access to any individual company results, but will only see the information in aggregate.

Please note: You may opt to print a copy of this questionnaire and fax it directly to Nordicity at 416-657-2521. To do so, simply click on the "Download to PDF" link at the top of any page of the survey other than this one. This PDF will display all answers to you have entered so far, and you may manually add any other responses that you may have skipped

There are five sections to the survey, a total of 21 questions:

- Corporate Profile – 5 questions (e.g. Are you a public vs. private company?)
- Financial Profile - 7 questions (e.g. A breakdown of operating revenues)
- Access to Financing - 2 questions (e.g. Do you use tax credits?)

- Employment and Jobs- 3 questions (e.g. How many people do you employ?)
- Market Growth Prospects – 2 questions (e.g. How do you see the industry evolveing?)
- Games Development – 2 questions (e.g.Do you develop games?)

Please take the time to complete the survey. This is likely best done by person(s) in senior management most familiar with key financial, human resources and other strategic issues facing your company.

Your participation in this survey is of the utmost importance and is greatly appreciated. The questionnaire is easy to fill out and should take less than 30 minutes to complete.

If you have any questions about this survey, you may contact: Kristian Roberts, Nordicity, 416 657 2521, kroberts@nordicity.com.

Many thanks.

A. Corporate Profile

A1. Is your company public or private?

A2. Is your company Canadian or foreign-controlled?

A3. For how many years has your company been in operation?

A4. What is your company's volume of output?

Computer animation - Please convert the number of films/TV episodes into the number of minutes.

Visual effects - Please state the number of shots completed.

Games and/or applications – Please state the number of projects completed

Other - Please state the number of projects.

	Fiscal Year Ending in: 2010	Fiscal Year Ending in: 2009	Fiscal Year Ending in: 2008
Computer Animation – total minutes:			
Visual effects - total shots:			
Games or Applications – number of projects:			

A5. What percentage of your company's projects (as described in the previous question) is service-oriented vs. original content owned by your company?

Please note that percentages for each year should equal 100%.

	Fiscal Year Ending in: 2010	Fiscal Year Ending in: 2009	Fiscal Year Ending in:2008
Service work			
Content owned by your company			
Other			

B. Financial Profile & Sales Data

B1. Please indicate your company's principal line of business (as of the fiscal year ending in 2010).

Your principal line of business is where your company generates the largest share of its revenues in a typical year.

Please note that if your company is engaged in pre-production work, please select the line of business that best describes the eventual finished product.

B2. Over the past three fiscal years, what has been your company's operating revenues, expenses and margin?

	Operating Revenue	Operating Expenses	Operating Margin
2010			
2009			
2008			

B3. In the fiscal year ending (FYE) in 2010, what was the approximate breakdown of your company's operating expenses?

Please note that percentages must sum to 100%

Variable	Response
B3. In the fiscal year ending (FYE) in 2010, what was the approximate breakdown of your company's operating expenses? | Wages, compensation and employee benefits:	
B3. In the fiscal year ending (FYE) in 2010, what was the approximate breakdown of your company's operating expenses? | Software licenses and equipment:	

B3. In the fiscal year ending (FYE) in 2010, what was the approximate breakdown of your company's operating expenses? | Premises (incl. utilities, telecoms, rent):	
B3. In the fiscal year ending (FYE) in 2010, what was the approximate breakdown of your company's operating expenses? | Legal, banking, accounting and other professional services:	
B3. In the fiscal year ending (FYE) in 2010, what was the approximate breakdown of your company's operating expenses? | Advertising/Marketing:	
B3. In the fiscal year ending (FYE) in 2010, what was the approximate breakdown of your company's operating expenses? | Transport. Travel, shipping:	
B3. In the fiscal year ending (FYE) in 2010, what was the approximate breakdown of your company's operating expenses? | Other:	

B4. Based on all projects completed in FYE 2010, what percentage of your annual revenues was generated by the following types of project:

Please note that percentages must sum to 100%

Variable	Response
B4. Based on all projects completed in FYE 2010, what percentage of your annual revenues was generated by the following types of project: | Original content owned by your company	
B4. Based on all projects completed in FYE 2010, what percentage of your annual revenues was generated by the following types of project: | Service-based work	
B4. Based on all projects completed in FYE 2010, what percentage of your annual revenues was generated by the following types of project: | Licensing	
B4. Based on all projects completed in FYE 2010, what percentage of your annual revenues was generated by the	

following types of project: | Other non-content revenues (e.g. merchandising)	

B5. What percentage of your company's revenues was generated by each of the following market segments in FYE 2010?

	Original content (%)	Service-work (%)
Live Action Feature Film		
Animated Feature Film		
Live Action TV		
Animated TV		
Game content		
Non-games digital Media		
Mobile apps		
Advertising (incl. commercials)		
Other		

B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions?

Please note that percentages must sum to 100%

Variable	Response
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | Canada: Ontario	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? |	

Canada: Quebec	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | Canada: B.C.	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | Canada: Other (please specify):	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | USA: L.A.	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | USA: New York	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | USA: Other (please specify):	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | Europe: UK	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | Europe: Western Europe	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | Europe: Eastern Europe	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? |	

Asia: India	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | Asia: China	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | Asia: Korea	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | Asia: Other	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | South America	
B6. In the fiscal year ending in 2010, what percentages of your company's revenues came from projects commissioned from each of the following regions? | Other:0	

B7a. In the fiscal year ending in 2010, did your company outsource any element of your business to other companies (e.g. other than to individual freelancers)?

B7b. Why did your company outsource any element of your business to other companies (e.g. other than to individual freelancers)?

B7c. To which jurisdictions did your company outsource? (please check all that apply).

C. Access to Financing

C1. What is the source of your company's original and ongoing capitalization? (Percentages must sum to 100%)

A) Original capitalization. Capitalization is to be understood as monies invested at the outset of a company prior to that company generating revenues.

Variable	Response
C1. What is the source of your company's original and ongoing capitalization? (Percentages must sum to 100%) | Private Equity (e.g. Angel Investor, VC)	
C1. What is the source of your company's original and ongoing capitalization? (Percentages must sum to 100%) | Public Equity (e.g. CTF, CMF experimental stream)	
C1. What is the source of your company's original and ongoing capitalization? (Percentages must sum to 100%) | Other Business Earnings	
C1. What is the source of your company's original and ongoing capitalization? (Percentages must sum to 100%) | Self-funding	

C1. What is the source of your company's original and ongoing capitalization? (Percentages must sum to 100%) | University/Incubator Funds	
C1. What is the source of your company's original and ongoing capitalization? (Percentages must sum to 100%) | Equipment Financing	
C1. What is the source of your company's original and ongoing capitalization? (Percentages must sum to 100%) | Other	

B) Ongoing sources of capital (as of the FYE 2010).

Variable	Response
| Retained Earnings/Profit	
| Bank Credit	
| Business Development Bank Loan	
| Self-funding	
| New Equity Injections (public and private)	
| Other	

C2. Please indicate the percentage of the projects produced by your company in the FYE 2010 that accessed the following tax credits?

Variable	Response
C2. Please indicate the percentage of the projects produced by your company in the FYE 2010 that accessed the following tax credits? | Ontario Computer Animation & Special Effects Tax Credit (OCASE)	
C2. Please indicate the percentage of the projects produced by your company in the FYE 2010 that accessed the following tax credits? | Scientific Research & Experimental Development (SR&ED)	
C2. Please indicate the percentage of the projects produced by your company in the FYE 2010 that accessed the following tax credits? | Ontario Production Services Tax Credit (OPSTC)	
C2. Please indicate the percentage of the projects produced by your company in the	

FYE 2010 that accessed the following tax credits? | Ontario Film and Television Tax Credit (OFTTC)	
C2. Please indicate the percentage of the projects produced by your company in the FYE 2010 that accessed the following tax credits? | Canadian Film or Video Production Services Tax Credit	
C2. Please indicate the percentage of the projects produced by your company in the FYE 2010 that accessed the following tax credits? | Canadian Film or Video Production Tax Credit	
C2. Please indicate the percentage of the projects produced by your company in the FYE 2010 that accessed the following tax credits? | Ontario Interactive Digital Media Tax Credit (OIDMTC)	

C3. In FYE 2010, did your company produce any projects that did not access an Ontario tax credit (i.e. OCASE, OPSTC, OIDMTC or OFTTC)

C3b. For those projects that did not access an Ontario tax credit (and were produced in the fiscal year ending in 2010), why did your company opt not to use the tax credit?

D. Employment and Training

D1. How many employees did your company employ (on average) over the past three fiscal years?

Artistic = Designers, layout artists, modelers, riggers, animators, etc.
Technical = Systems operators, programmers, network and communication specialists, etc
Administrative = CTO, CFO, production management, sales, marketing, PR, finance, etc

Contract/Temporary labour = Individuals hired on a short-term basis, either full or part-time.
Freelancers = Self-employed workers including personal corporations

	2010	2009	2008
Artistic: Full-time staff			
Artistic: Part-time staff			
Artistic: Contract/Temporary/Freelance			
Technical: Full-time staff			
Technical: Part-time staff			
Technical: Contract/Temporary/Freelance			
Administrative: Full-time staff			
Administrative: Part-time staff			
Administrative: Contract/Temporary/Freelance			

D2. How would you rate the current availability of well-trained, experienced new hires for your company in the following categories?

Artistic = designers, layout artists, modelers, riggers, animators, etc.
Technical = systems operators, programmers, network and communication specialists, etc
Administrative = production management, sales, marketing, PR, finance, etc.

Senior = five or more years of directly relevant experience
Intermediate = 2 to 4 years of directly relevant experience
Junior = fewer than 2 years of directly relevant experience

Variable	Response
D2. How would you rate the current availability of well-trained, experienced new hires for your company in the following categories? | Artistic: Senior	

D2. How would you rate the current availability of well-trained, experienced new hires for your company in the following categories? | Artistic: Intermediate	
D2. How would you rate the current availability of well-trained, experienced new hires for your company in the following categories? | Artistic: Junior	
D2. How would you rate the current availability of well-trained, experienced new hires for your company in the following categories? | Technical: Senior	
D2. How would you rate the current availability of well-trained, experienced new hires for your company in the following categories? | Technical: Intermediate	
D2. How would you rate the current availability of well-trained, experienced new hires for your company in the following categories? | Technical: Junior	
D2. How would you rate the current availability of well-trained, experienced new hires for your company in the following categories? | Administrative: Senior	
D2. How would you rate the current availability of well-trained, experienced new hires for your company in the following categories? | Administrative: Intermediate	
D2. How would you rate the current availability of well-trained, experienced new hires for your company in the following categories? | Administrative: Junior	
D2. How would you rate the current availability of well-trained, experienced new hires for your company in the following categories? | Other (please specify):	

D3a. How satisfied is your company with new graduates' ability to meet your human resource needs?

E. Market Growth Prospects

E1. In which of the following areas do you anticipate growth or decline for your business over the next 1-3 years?

Variable	Response
E1. In which of the following areas do you anticipate growth or decline for your business over the next 1-3 years? | Live action feature film	
E1. In which of the following areas do you anticipate growth or decline for your business over the next 1-3 years? | Animated feature film	
E1. In which of the following areas do you anticipate growth or decline for your business over the next 1-3 years? | Live action TV	
E1. In which of the following areas do you anticipate growth or decline for your business over the next 1-3 years? | Animated TV	
E1. In which of the following areas do you anticipate growth or decline for your business over the next 1-3 years? | Video/Computer Games	
E1. In which of the following areas do you anticipate growth or decline for your business over the next 1-3 years? | Mobile Application Development	
E1. In which of the following areas do you anticipate growth or decline for your business over the next 1-3 years? | Other digital media (e.g. content, web content, scientific animation, etc.)	
E1. In which of the following areas do you anticipate growth or decline for your business over the next 1-3 years? | Other	

content (please specify)	

E2. What are the factors that are limiting growth for your company?

Variable	Response
E2. What are the factors that are limiting growth for your company? | Better tax credits on other jurisdictions	
E2. What are the factors that are limiting growth for your company? | Decline in demand for service work	
E2. What are the factors that are limiting growth for your company? | Shortage of skilled labour	
E2. What are the factors that are limiting growth for your company? | Shortage of effective training programs	
E2. What are the factors that are limiting growth for your company? | Strong international competition	
E2. What are the factors that are limiting growth for your company? | Lack of affordable capital for expansion or day-to-day operations	
E2. What are the factors that are limiting growth for your company? | Inability to access foreign markets	
E2. What are the factors that are limiting growth for your company? | Insufficient management & marketing/sales expertise	
E2. What are the factors that are limiting growth for your company? | Local studios' inability to collaborate in an effort to leverage economies of scale	
E2. What are the factors that are limiting growth for your company? | Increase in client/producer demands	
E2. What are the factors that are limiting growth for your company? | High cost of operating in Ontario	
E2. What are the factors that are limiting growth for your company? | Threat of industry disruptions (e.g. strikes)	
E2. What are the factors that are limiting growth for your company? | Increasing strength of Canadian dollar	
E2. What are the factors that are limiting growth for your	

company? | Other (please specify)	

Thank you for your cooperation.

Please click on the Submit button to complete the questionnaire.

Your input is critically important to CASO's understanding of the computer animation and visual effects industry in Ontario - and thus effectively advocate on your behalf.

That said, we remind you that all information submitted will be held in strict confidence by Nordicity and will only be presented in aggregate to CASO, its Board, or any other party. At no time will company-specific information be made available.

To submit your survey, please ensure that you press the "Submit" button (the farthest button to the right).

Thank you again for your participation.

A.2 Customer Satisfaction Survey

Introduction

Thank you for agreeing to collaborate in this survey of client satisfaction of the computer animation and visual effects industry in Ontario.

The Computer Animation Studios of Ontario (CASO) has engaged Nordicity to prepare this online survey to collect information on the strengths and weaknesses in delivering, meeting and/or exceeding customer expectations.

Your input is vital to the on-going development of the computer animation and visual effect industry in Ontario.

Please note that all of your responses to the survey will be kept strictly confidential. The information collected will be used in aggregate. Only Nordicity will see individual company information. The CASO board, its members and/or our funding sponsors will have no access to any individual company results, but will only see the information when presented in aggregate.

There are 2 sections to the questionnaire, a total of 9 questions:

- Buyer Profile – 3 questions
- Experience with Ontario Studios- 6 questions

Please take the time to complete the questionnaire, which is easy to fill out and should take 15 minutes (or less) to complete.

This may best be done by person(s) in senior management most familiar with key decision making and other strategic issues around service procurement.

Your participation in this survey is of the utmost importance and is greatly appreciated.

If you have any questions about this survey, you may contact: Julie Whelan, Nordicity, 647 878 0989, jwhelan@nordicity.com.

Many thanks.

A. Buyer Profile

A1. Please provide the following information.

As a reminder, information particular to your company will not be shared with CASO, its Board or any other party. Only aggregate information will be presented.

Variable	Response
A1. Please provide the following information. | Company	(No response)
A1. Please provide the following information. | Contact Name	(No response)
A1. Please provide the following information. | Title	(No response)
A1. Please provide the following information. | Email Address	(No response)

A2. In what region and location is your company based (i.e. is headquartered)?

A3. What is the principal line of business in which your company does business (i.e. where your company generates a majority of its revenue)?

B. Experience with Ontario Studios

B1. Over the past 12 months, on how many projects did you work with an Ontario-based computer animation and/or visual effect studio?

B2. Of the projects on which you worked with an Ontario-based studio, what percentage of these projects were in the following market segments?

Please note that percentages must total to 100%.

Variable	Response
B2. Of the projects on which you worked with an Ontario-based studio, what percentage of these projects were in the following market segments? | Live Action Feature Film	
B2. Of the projects on which you worked with an Ontario-based studio, what percentage of these projects were in the following market segments? | Animated Feature Film	
B2. Of the projects on which you worked with an Ontario-based studio, what percentage of these projects were in the following market segments? | Live Action TV	
B2. Of the projects on which you worked with an Ontario-based studio, what percentage of these projects were in the	

following market segments? | Animated TV	
B2. Of the projects on which you worked with an Ontario-based studio, what percentage of these projects were in the following market segments? | Game Content	
B2. Of the projects on which you worked with an Ontario-based studio, what percentage of these projects were in the following market segments? | Other Digital Media	
B2. Of the projects on which you worked with an Ontario-based studio, what percentage of these projects were in the following market segments? | Advertising (incl.commercials)	
B2. Of the projects on which you worked with an Ontario-based studio, what percentage of these projects were in the following market segments? | Other	

B3. Overall, what is your company's overall level of satisfaction with the Ontario-based studio(s) with which you have worked (over the past 12 months): (select one)

B4. Based on the following criteria, please rate your experience working with Ontario-based studios.

Variable	Response
B4. Based on the following criteria, please rate your experience working with Ontario-based studios. | Cost of labour	
B4. Based on the following criteria, please rate your experience working with Ontario-based studios. | Quality of creative work	
B4. Based on the following criteria, please rate your experience working with Ontario-based studios. | Quality of technical work	
B4. Based on the following criteria, please rate your experience working with Ontario-based studios. |	

Timeliness of deliverables B4. Based on the following criteria, please rate your experience working with Ontario-based studios. | Professionalism and attitude B4. Based on the following criteria, please rate your experience working with Ontario-based studios. | Business skills and knowledge	

B5. Over the past 12 months, did your company select a studio outside of Ontario to work on a project for which one or more Ontario-based studios were considered?

B5b. Why did your company opt not to work with an Ontario-based studio?

B5c. In which jurisdiction did the animation and/or visual effects work in question take place?

B6. Are there any issues (positive or negative) that you would like to bring to the attention of Ontario-based computer animation and/or visual effects studios?

In some instances we may want to follow-up with you to briefly discuss some of the issues raised in this survey.

Do we have permission to get in touch if this need arises?

Thank you for your cooperation.

Please click on the Submit button to complete the questionnaire.

Your input is critically important to CASO's understanding of the computer animation and visual effects industry in Ontario.

We remind you, however, that all information submitted will be held in strict confidence by Nordicity and will only be presented in aggregate to CASO, its Board, or any other party. At no time will company-specific information be made available.

For more information on the study or CASO please visit www.casont.com