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EMERGING STRONGER

Addressing the Skills Under-Utilization
Challenge for the Future of Work in
Canada

ARVIND GUPTA & AJ TIBANDO

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EXECUTIVE SUMMARY

Seven of the 10 largest market capitalized companies on US stock exchanges are in the knowledge sector. In Canada we have one: Shopify.

A thriving knowledge economy inherently relies on a highly skilled and adaptable workforce. And, as the COVID-19 pandemic has revealed, knowledge-intensive sectors are far more resilient in times of disruption than most other sectors. So what does it take to build the workforce that will help Canada transition to a knowledge economy? On paper, we have already accomplished this feat. According to the Organisation for Economic Co-operation and Development (OECD), Canada has one of the most highly educated and highly skilled workforces in the world. Our strong post-secondary education system, combined with robust labour market development programs, should lead to an abundance of the kinds of workers knowledge-based firms need. And yet, we continue to lag behind our international peers. Industry points to a lack of the right talent as a critical inhibitor for their growth.

In Canada, we excel at creating and launching firms in sectors such as information and communication technology (ICT), also known as "high-tech". We are consistently ranked as one of the five best countries for creating knowledge-based enterprises. But we struggle to turn start-ups into global leaders. For example, seven of the 10 largest market capitalized companies on US stock exchanges are in the knowledge sector. In Canada we have one: Shopify.

The enduring and frustrating irony to this challenge is that while Canadian ICT firms are struggling to hire business talent, significant numbers of workers in the Canadian labour market have the foundational skills to succeed in these roles.

This paper sets out to explore this gap. Undoubtedly, Canada has put significant emphasis on developing policies, programs and services across the labour market to address challenges inherent in the so-called "skills gap". This paper untangles actions from outcomes, tests popular assumptions, and begins to answer critical questions:

- How do we ensure that opportunities are maximized for Canadians in the transformation to a knowledge-intensive economy?

- What are the appropriate support mechanisms for mid- to late-career workers who are most in danger of being displaced during this transformation?

- How should our skilling and education systems evolve to prepare those entering the workforce in an environment where skills needs are constantly evolving?

Most importantly, we ask the fundamental question: Are we sure the problem is mismatched skills? To answer this, we go back to first principles and ask: What does it take to land a job in tech, especially if you have the skills but are coming out of a totally different sector? Asking this question leads us on an interesting journey that enables us to identify and address challenges that go far beyond a skills question—challenges we may have missed because we are so focused on skills.

To explore these and other questions we (the authors, AJ and Arvind) created Palette Inc., a national not-for-profit talent platform that strives to meet the needs of Canada's most innovative companies by rapidly upskilling diverse and non-traditional workers. Market research, combined with the lessons learned in our first year of operation, have generated the insights we share in this paper. Palette gave us a platform for testing real-world assumptions. We were able to gain new perspectives, in part by seeing the skills debate through the eyes of companies and workers.

Our overall findings indicate that the talent challenge faced by ICT firms is less a problem of an underlying skills gap in the workforce and more a problem of skill underutilization. We argue that ICT firms' inherent biases are stalling the transition of large numbers of well-qualified workers into these firms. Such biases arise because the hiring processes ICT firms use are not capable of identifying skills picked up in more traditional sectors. This contributes to a chronic inefficiency and underutilization of talent within the labour market and bolsters the refrain that there is a skills gap and/or talent shortage.

The challenge for policy-makers in thinking about how we support the burgeoning knowledge economy is to identify where we already have the requisite skill set and how firms can tap those workers. How do we create the systems and structures necessary to rapidly redeploy talent across sectors as supply and demand for talent shift? Addressing this challenge is critical if Canada is to transition to a 21st century economy that is poised for sustained growth—and that will ensure all Canadians have the opportunity to enhance their quality of life, irrespective of disruptions caused by automation, recession or a global pandemic.

INTRODUCTION

The COVID-19 pandemic has unleashed forces that are pushing disruption to unimaginable levels.

Just as society was coming to grips with a public discourse on the rapid socio-economic transformation due to automation (with terms like "industry 4.0", "gig work", and "future of work" becoming part of the public-policy vernacular), the COVID-19 pandemic has unleashed forces that are pushing disruption to unimaginable levels. The global economic landscape has seemingly changed overnight, and those changes are quickly moving across nearly every sector and facet of society. This new reality has also unleashed public policy conundrums. How does public policy get made when change is happening daily (and sometimes hourly)? How do we plan for the next phase of work? Does it even make sense to talk about "the future of work" when changes to public policy in one part of the world might result in vastly different futures in another?

Good public policy is not about addressing a single issue in an otherwise stable environment. Rather, it is about creating responsive and resilient policies that can continuously adapt in a constantly changing environment. This is true regardless of what is causing the change or what challenges the policy-making landscape faces. With unemployment skyrocketing to near depression levels in just eight weeks, perhaps there is no greater challenge for the foreseeable future than the question of how to build resilience into the workforce.

Interestingly, the current pandemic appears to be accelerating the move towards a knowledge economy. Sectors such as ICT, clean tech, biomedical, fintech, and advanced manufacturing have been more resilient to the pandemic than traditional sectors such as retail, education, hospitality and tourism. Any future we envisioned before COVID-19 already involved a shift to intensifying knowledge across the socio-economic spectrum; the pandemic will accelerate this trend.

Talent underpins the knowledge economy, and countries that succeed in delivering the right talent to their knowledge sectors will be best positioned to enhance their citizens' quality of life. Because all sectors must become more knowledge intensive, any discussion about the future of work must focus on the knowledge economy to create stable public policy. Canadian knowledge firms continue to struggle to identify appropriate talent even while millions of highly skilled Canadians at all stages of their careers seek roles in this part of the economy. This creates a unique opportunity, since high-quality, resilient jobs in the knowledge space will also act as drivers of economic growth after the pandemic.

How do we ensure that opportunities are maximized for Canadians in the transformation to a knowledge-intensive economy? How will we handle the challenges of those who are mid- to late-career and in the

greatest danger of being displaced during this transformation? What should our education system do to prepare those entering the workforce for a life-long career in an environment where knowledge skills are constantly evolving? These broad issues are endemic to the knowledge space, and it is critical that we design systems that adjust to the facts on the ground. Developing relevant policy-based solutions requires an intimate understanding of this reality. We must move beyond theoretical exercises or multi-year development cycles and, where necessary, make structural and systemic changes. The COVID-19 pandemic has accelerated the need to ensure we are addressing economic and labour-market challenges at the speed at which they emerge. This requires a virtuous cycle of iteratively creating, developing, testing, and revising practical and tactical policy innovations. A continual process that ensures iteration and refinement will create a dynamic system that adjusts in real time to new realities.

In this paper, we will lay out the challenges policy-makers face when addressing the talent needs of employers in the context of the future of work. We will outline the research and development process we undertook in creating Palette's talent model, and highlight our outcomes in our pilot program, SalesCamp. We will show that this approach yields significantly better outcomes with respect to placement rates, salary increases and career growth potential when compared to many existing supply-led programs. Our approach has proven so successful that, despite the COVID-19 pandemic, our placement rates remain steady and our program participants continue to receive job offers.

We have captured and distilled the lessons and insights we gathered through this practical and applied policy research exercise. They can be used by others to inform and design resilient and responsive approaches to supporting industry, and to help employees navigate the future of work. We will make the case for a national talent platform that is nimble enough to respond to the needs of knowledge sectors. This requires building appropriate support systems that allow workers to transition into these in-demand occupations.

TALENT AND THE KNOWLEDGE ECONOMY

THE CANADIAN CONTEXT

Innovation is the engine of the knowledge economy, and talent fuels that engine. Canada possesses numerous advantages that prime this country for success as an innovation leader. More than half of our working-age population holds a post-secondary credential, positioning us as a global leader. We continue to be one of the most open, welcoming and tolerant societies. Governments, at all levels, have systematically and proactively created a suite of programs to bolster innovation. Yet, while there have been some notable Canadian-made innovation successes, on many international indicators, we continue to exhibit sub-par performance.

Ultimately, "innovation success" is about the ability to nurture enterprises that become leaders in applying and leveraging knowledge—and that boost economic performance and enhance our social fabric. This includes: creating new enterprises that are international successes; ensuring existing industry sectors embrace innovation and use knowledge as a critical component of their businesses; and growing productivity at a faster rate than our international competitors.

When it comes to innovation outcomes, there are some worrying trends. Canada is consistently ranked as one of the five best countries for creating knowledge-based enterprises.[1] Yet we struggle to turn start-ups into global leaders. For example, seven of the 10 largest market capitalized companies on US stock exchanges work in the knowledge sector. In Canada, we have one such company: Shopify. There is good evidence the root cause is that our start-ups do not scale as quickly as their international counterparts. The Impact Centre found that, while we do well at creating start-ups, few of our companies achieve significant valuations.[2] In their monthly ranking of unicorn firms, CB-Insights lists two Canadian firms (Coveo and Nuvei) versus over 220 in the US, 80 in China, and 20 in the UK. On a per capita basis, Canada ranks last amongst G7 countries.[3]

Why do we exhibit sub-par performance at building innovation-centric companies? One reason could be an issue with talent allocation in Canada. Drawing from the 2018 CBRE report "Scoring Tech Talent", a study of information communication technology (ICT) firms in North America, 36 percent of Canadian employees are engaged in core technology development versus 27 percent in the US. Flipped around, 64 percent of employees in Canada versus 73 percent in the US are core-business builders. With more than 650,000 ICT workers in Canada, this is a gap of more than 60,000 employees.[4] With these numbers in mind, it is not surprising that:

one of the biggest challenges Canadian ICT firms cite with respect to talent acquisition is business skills—including sales, marketing, finance, human resources and operations.

There is a frustrating irony to this challenge. While Canadian tech firms are struggling to attract business talent, there are significant numbers of workers in the Canadian labour market with the foundational skills to succeed in these roles. These can include mid-career workers in traditional sectors, recent graduates coming out of non-STEM disciplines, newcomers to Canada, or those returning to the workforce after a substantial gap for family reasons. They may find themselves in precarious employment situations, especially as whole sectors lean on automation to transform due to shifting market demand or global forces such as the COVID-19 pandemic. These workers are seeing their traditional pathways for career growth significantly hampered. While these workers have skills that ICT firms seek, they are often overlooked because they have little tech experience or few connections in the tech sector.

Our research indicates that the talent challenge faced by ICT firms is less a problem of an underlying skills gap in the workforce and more a problem of skill underutilization. With their strong foundational skills and previous work experience, the actual gap in knowledge required to bridge these workers into the tech sector is relatively minimal. In this paper, we will focus on the challenge of boosting economic growth by facilitating high-potential firms (mainly in the knowledge space) to find the workers they need by tapping an expansive supply of underutilized, highly talented people. We believe that meeting this challenge requires a rethinking of the structures needed for skilling in the modern economy, and that a new talent system in the Canadian context must be built—one that is nimble, demand-driven, responsive to industry and capable of tapping workers at all stages of their careers.

FORMING A HYPOTHESIS

> **"What if the problem isn't fundamentally about skills? What if there is a different problem, one that we're not seeing because we're so focused on skills?"**

A tremendous amount of research, programming and approaches seek to unlock new pools of talent by addressing the so-called "skills gap" within the labour market. For well over a decade, researchers, academics and policy-makers have been discussing the challenges of mismatched supply and demand for talent—the proverbial problem of "people without jobs and jobs without people".[5] This challenge is not always framed as an issue of skills, since companies argue that they cannot find the talent they need because insufficient numbers of Canadians fit the skill profile of the workers they are aiming to hire. Framing this problem as an issue of skills—whether technical skills or professional skills[6]—has resulted in a number of major policy responses, including adapting university and college curricula, expanding co-ops and experiential learning, and developing new continuing-education offerings. While these initiatives are generally beneficial for improving skill development, the complaints from industry around talent continue to persist—and, in fact, seem to be growing louder.

We have been at the front lines of this challenge in different ways for many years. Arvind led Mitacs[7] for over a decade, focusing on how to leverage talent to drive innovation in industrial sectors. AJ worked for the Minister of Training, Colleges and Universities during the Great Recession, where she managed many aspects of the Second Career program, saw the impacts of large-scale labour market disruption and witnessed the limitations of parts of the employment services system. We have participated in many of these conversations and at times led programming designed to address the "skills gap" issue. Yet it seems that very little has changed over the years regarding the size and scope of the problem as described by industry.

Knowing this, we decided to take a step back and ask ourselves the question: "What if the problem isn't fundamentally about skills? What if there is a different problem, one that we're not seeing *because* we're so focused on skills?" After all, according to the Organisation for Economic Co-operation and Development (OECD), Canada has one of the most highly skilled workforces in the world. It seems counterintuitive that such a skill-related challenge would persist. And yet, we are seeing a real phenomenon amongst Canadian firms, particularly with scale-ups, where their growth is lagging behind peer countries. Whether that challenge is directly tied to skills is unclear. As we reviewed numerous reports about the talent challenges that industry is facing, we found that much of the research began with an underlying assumption that the talent shortage was inherently related to skills. We wanted to explore that further and test if it was indeed the case.

AN INDUSTRY PERSPECTIVE

In 2017, in collaboration with the Brookfield Institute for Innovation + Entrepreneurship, we set out to better understand the gaps in Canada's firm-level innovation performance within the knowledge economy—particularly scale-ups—and the role talent plays. We identified 43 fast-growing ICT firms in the Greater Toronto Area and engaged with them to understand their scale-up challenges.[8]

The overwhelming response centred on the need to more quickly find and on-board the right talent. That this is consistent with other findings[9] should come as no surprise. While recruitment of technical talent was often raised, for many firms the current suite of programs and the dramatic increase in post-secondary programming for boosting the number of STEM graduates was having an effect. What was more surprising was that firms writ large were struggling to identify workers with appropriate business skills. And, irrespective of the products and services being developed or the regions they operated in, many of their talent needs were the same. This was especially true for business roles such as sales and marketing. It became clear that an opportunity existed to establish an industry consortium-style approach to talent development within this context.

Given this demand for talent, we began an in-depth study of the decision-making process deployed by firms to identify and evaluate talent. Most other research on this issue poses questions such as: What skills are employers looking for and struggling to find? Framing the question this way assumes that procuring skills is the baseline challenge for companies. It is little wonder that, in this case, feedback focuses on challenges in the context of specific skills. However, for both the company and the worker, the ultimate goal is job placement. Job placement is a win for the company that needs talent, and a win for a worker who needs a job. Skills, in this case, are simply a means to secure a job.

If a job is the desired outcome, then the conversation should focus not just on skills, but also more broadly on hiring. This led us to ask the employers: "What do you consider when deciding to hire a worker?" Phrasing the question in this way unearthed a wide range of responses, as each employer does things differently. However, through our discussions, we identified three indicators that nearly all employers mentioned in making hiring decisions:

1. Was the applicant referred by someone I know? Do I know someone who can vouch for this applicant?

2. Does the applicant have relevant work experience in a company similar to mine?

3. Does the applicant have the right skills and mindset for the job?

These indicators give insight into the actual decision-making process employers go through when hiring. They help to illuminate why skilled workers struggle to transition between industry sectors and why companies so often feel there is a lack of skilled talent available, despite having access to the enormously

skilled Canadian workforce. While there are many workers in the field who may have the right skills, if they are currently working in a non-ICT sector such as retail or finance, the vast majority of their professional networks, referrals and work experience are in their current sector. Because these workers cannot adequately address the first two indicators considered by employers, they routinely get overlooked. Therefore, any program purely focused on skill development would likely be doomed to low placement rates because skills alone are not enough to mitigate the need for the other two indicators.

MITIGATING RISK IN THE HIRING PROCESS

As we developed a better understanding of these indicators and the role they played in the hiring process, we determined that each indicator ultimately served as a validation proxy that the employer used to vet candidates.

Indicator	Validation
Referral networks	Growth mindset, soft skills, work ethic
Work experience	Ability to operate and thrive in specific work environments and deal with specific work scenarios
Skills/ credentials	Foundation for competency and ability to do the job

Employers have learned to rely on these types of indicators to de-risk their hiring process, particularly when considering the intangible need to ensure a candidate will be a good fit. During research interviews with employers, we heard repeatedly that professional skills and a "growth mindset" were essential; upon further exploration, it became clear most employers had no formal mechanisms to evaluate those attributes.

Gaining a better understanding of how employers manage risk through these proxy validators helps to put into context many of the challenges workers report facing. Time and again we heard from highly qualified, skilled workers that they come across jobs in tech that seem like a good fit, submit a resume and reach out to the hiring manager, and never receive a response. In speaking to employers about this, we learned that a candidate who does not have previous tech experience, and who cannot point to a referral in their network who the employer trusts, is extremely unlikely to be considered.

Networks and previous experience are so highly valued by knowledge firms, that it is especially challenging for those making cross-sectoral job transitions. Networks strengthen and intensify over time within a career

path. The longer one is in the same sector, even in multiple companies, the stronger and firmer those networks become. And yet, many of the skills that firms seek are highly transferable and not tech-specific. For example, during our research, one employment category identified by nearly all firms was around sales—ranging from junior associates to senior account managers. Sales is a highly transferable skill, and there is a ready cohort of workers emanating from retail and hospitality with the interpersonal, communication, and persuasion skills needed for success across nearly all sectors. Yet it is nearly impossible for these workers to be seen by tech firms as viable candidates.

> **These findings indicate that the primary job placement challenge for both workers and industry is a structural bias against hiring non-traditional[10] workers; companies think that hiring such workers exposes them to risk.**

This bias contributes to chronic inefficiency and underutilization of talent within the labour market, and bolsters the refrain that there is a skills gap and/or talent shortage. The challenge, then, is not about how best to address a skills gap, but instead how to create the systems and structures necessary to rapidly redeploy talent across sectors as supply and demand for talent shift. Solving this issue is imperative for both the economic growth of the knowledge economy and for workers from other sectors whose jobs are displaced, whether from automation, recession or a global pandemic.

LABOUR MARKET DEVELOPMENT LANDSCAPE

POST-SECONDARY EDUCATION

Canada is a world leader in providing high-quality education, and boasts one of the mostly highly educated, well-skilled populations in the world. More than 57 percent of Canada's working-age population holds a post-secondary credential, versus the Organization for Economic Co-operation and Development (OECD) average of 31 percent.[11] Among Canadians aged 25 to 34, 61 percent hold a post-secondary credential, compared to 44 percent in the OECD.[12]

Canada's robust post-secondary education system is amongst the best in the world at two key functionalities:

1. **Educating and preparing young people to enter the job market for the first time through undergraduate degrees and diplomas.**

2. **Helping professionals in the workforce advance vertically within their careers through additional designations and accreditations.**

As such, this system is not primed to ensure horizontal, cross-sector job transitions throughout an individual's career. The reality is that there are critical differences between the experiences of mid-career workers versus new graduates entering the workforce. First, younger workers tend to target growing industries as a first career choice because these are the sectors most likely to be hiring. Second, they are still establishing their foundational skills (including professional skills) through on-the-job training. Third, they have undeveloped professional networks. Mid-career workers, meanwhile, are often in traditional industries, have strong professional skills through longer-term participation in the labour market, and have well-developed professional networks—albeit often in the same industry sector where they are employed.

How can a new skilling pedagogy accommodate these vast differences? Let's consider the experience of mid-career workers. These workers, when looking for career transitions, are often looking to use their expertise rather than seek a new credential or professional designation. For these workers, it is more about learning how to *contextualize* their existing skills in a new sector than about using education pedagogies that focus on teaching new *content*. In addition, these workers need mechanisms to highlight existing skills to employers who, as we have seen, tend to use hiring processes that exclude them. Therefore, the challenge is less about teaching net new skills and more about helping identify job pathways that allow these workers to adapt and apply their existing skills to a new reality.

INDUSTRIAL TRAINING

Canada lags behind the OECD average when it comes to job-related, non-formal training, but recognition is growing that workforce development is vital in the knowledge economy.

Much has been written and debated about the state of industrial training in Canada. While firms are trending toward increasing the amount of training they provide, Canada still lags significantly in this area relative to the rest of the world. Dan Munro (2019) found that "less than one third of Canadians receive job-related, non-formal education. Those who do receive only 49 hours of instruction annually, well below the OECD average of 58 hours."[13]

Canadian firms also generally underspend on training when compared to global peers. In 2006, a survey of Canadian employers showed they spent roughly $1,000 per employee on training while U.S. employers spent approximately $2,000 per employee. By 2016, Canadian employers were spending 81 cents for every dollar American firms spent, a substantial improvement from just over 50 cents a decade earlier.[14] However, the gap was closed primarily because U.S. employers reduced spending, not because of any increases by Canadian employers.[15]

Recognition is growing in Canada that workforce training and development are vital to maintaining a relevant workforce, especially in the knowledge economy. Yet an often-repeated challenge heard from employers (especially SMEs) is that the demand for reskilling is too great and constantly evolving, and thus they are unsure how to do this right.

WORKFORCE DEVELOPMENT SYSTEMS

Most governments operate or support workforce development systems, which often include programs geared towards skills development. In Ontario, the provincial government operates Employment Ontario, which is mandated to help all job seekers find employment in the province.[16] Employment Ontario provides a network of organizations with funding to support workers who are laid off or struggling in the labour market. The organizations provide tools that range from resume writing and job search help to basic literacy and numeracy to reskilling and upskilling programs. They also work with employers to fill job vacancies. In 2008, Ontario launched the Second Career program, which enables laid-off Ontarians to train for a new job in a high-demand career by providing up to $28,000 to attend a private or public college training program.[17]

Second Career, and nearly all other workforce development programs, are primarily supply-driven. They focus on the worker (who must be laid off to access the program), determine their interests and skills, direct them into a program and, at the end of the process, attempt to match them with a job. While this approach enables programs to reach a large number of workers, it does not provide a reliable path to job

placements. According to the Auditor General of Ontario's 2016 report, in 2015–2016, 35 percent of Second Career clients reported being employed when they completed the program. But only 17 percent were employed full-time, and only 10 percent were employed in their field of training, a professional occupation or a more suitable job once they had completed the program.[18] These numbers improved after 12 months, with 81 percent of participants reporting they were employed. However, only 22 percent of those employed were working in the field for which they were trained.[19]

PALETTE INC.: A MADE-IN-CANADA SOLUTION

Our deep understanding of hiring processes led us to conclude that a public policy rethinking is required if non-traditional candidates are to receive the best possible support. Most programs and organizations that deal with talent focus primarily on skill development and are inherently supply-led. In other words, they are primarily guided by the skill needs of the worker, as opposed to being guided by firm-centric employment demands. A demand-driven solution is called for.

To develop a true demand-driven, industry focused upskilling model, we launched Palette as a new, independent not-for-profit organization with a mission to become a national talent platform that meets the needs of Canada's most innovative companies by rapidly upskilling diverse and non-traditional workers. Our vision is of a Canada where all people and organizations can thrive in the rapidly evolving knowledge economy.

We launched with a focus on three core objectives:

1. **Increase the number of Canadian companies able to find the domestic talent they need to grow;**

2. **Increase the number of Canadians who secure jobs by developing the right skills for the innovation economy; and**

3. **Decrease the overall sense of anxiety among Canadians about navigating a changing labour market.**

Our goal is to help accelerate the growth of our most innovative knowledge economy firms by bridging their talent needs. We do this by identifying pools of underutilized and underappreciated talent that have most of the foundational skills they need to succeed.

Our focus in being a demand-driven talent platform for Canada's fastest growing innovation-oriented firms is unique. We bring together employers, job seekers and training providers to identify job and skill demands, match well-suited pools of workers to that demand, and design and deploy upskilling programs

to bridge the gap. For example, our pilot program, SalesCamp, addressed industry's need for tech sales workers by targeting mid-career workers from sectors under disruption, such as retail and hospitality. By leveraging a partnership-based platform model, we rapidly identified talent opportunities, responded to industry's needs and nimbly deployed upskilling solutions. See the appendix for more detail on Palette's operating model.

TESTING THE MODEL: SALESCAMP PILOT

In early 2019, we received a $1.17M Employment and Social Development Canada grant to pilot our approach. The goal was to understand whether workers with customer-facing sales skills, but no previous tech sector experience, could be transitioned into ICT sales employment using the Palette model. The project called for a program with 60 participants over three cohorts. Cohort training took place in June 2019, September 2019 and February 2020. The third cohort completed its training during the COVID-19 lockdown.

DESIGN AND DELIVERY

For each cohort, Palette created industry consortia of approximately 10 ICT firms. In total, 19 unique employers participated in the three SalesCamp cohorts. Each firm had multiple job openings and was struggling to identify appropriate talent. Tech sales is a broad category that includes inside sales, sales leads, sales development, outside sales, sales engineers, and account managers. The pilot focused on sales generation and leads, and sales development.

We purposely set out to identify cohort participants who:

- had excelled in an outward-facing customer role for at least five and, ideally, 10 years;

- were proactively looking to get into the ICT sector; and

- could demonstrate a "growth mindset" by showcasing how they handled adversity.

Because we were recruiting non-traditional candidates, our application process directly tested foundational skills instead of using proxies such as work experience and education, which is the norm for traditional recruiting. The process unfolded over two phases:

1. In phase 1, applicants completed an online application with written questions designed to discern their mindset when dealing with change, their ability and desire to learn ("growth mindset") and their desire to transition their careers to tech sales. They also submitted a 30- to 90-second pitch video for any product, service or idea. Selected applicants moved to phase 2.

2. In phase 2, applicants undertook a 30-minute in-person interview conducted by Sales Talent Agency. Using a DNA PRO™ assessment, Sales Talent Agency provided Palette with

recommendations on each candidate. We often completed a second in-person interview after which we made a final decision about acceptance into SalesCamp.

More than 5,000 individuals came to our self-evaluation portal and 58 eventually became participants. At recruitment, many of our participants were actively applying to tech sales positions—many to the firms in our industry consortia. They received close to zero interviews, and none had received an offer. This gave us a good control metric for our program.

Each round of training took six weeks. The training program was structured as:

- two weeks of self-study through a combination of print and online materials;

- one-week of intensive class-room skilling by The Revenue University, OCAD U CO, and employers; and

- three weeks of evening peer meetings to share and enhance skills and learnings.

This unique learning model ensured that employed participants needed to take only one week vacation, yet received six weeks of training. After the third week, participants could begin interviewing. Much of the last three weeks focused on participants helping each other develop strategies for identifying job openings, interviewing and negotiating.

OUTCOMES TO DATE

Program outcomes thus far have been impressive and beyond our expectations. For this report, we will separate cohort outcomes given that we report on job offer and placement rates at two- and six-months after the program has been completed. When this paper was written, cohort 2 results had just been finalized, while cohort 3 was in the midst of being placed. A full formal evaluation of the pilot will be published in fall 2020.

COHORT 1

- After eight weeks, **85 percent of program graduates had a job offer**.

- After six months, **100 percent of program graduates had a job offer**.

- Three graduates chose to pursue a career outside of tech sales. Of the 14 remaining graduates in the cohort, all were employed in tech sales roles.

- On average, participant **salaries increased by 23 percent.**

COHORT 2

- After eight weeks, **40 percent of program graduates had a job offer.**

- After six months, **95 percent of program graduates had a job offer.**

- We are still compiling salary data for all graduates, but early data indicates that participant **salaries increased by 12 percent.**

COHORT 3

At the time of writing it was six weeks since the third cohort had completed the program, and 57 percent had received tech sales job offers. This cohort was ahead of the first two with respect to placements despite undertaking the entire job search process during the COVID-19 pandemic, when most companies were laying off workers and instituting hiring freezes.

In conversations with hiring partners, anecdotal evidence points to many reasons why participants continue to receive job offers in the midst of this pandemic. They include the following:

- **Employers trust in Palette and its ability to identify top-tier talent that has exceeded their expectations in the first two cohorts;**

- **Palette industry partners tend to be well-capitalized firms with at least 50 employees, making them more resilient to the pandemic; and**

- **Palette's alumni network has worked to help identify new opportunities for the third cohort, and often acted to boost this cohort's referral network.**

ISSUES OF EQUITY IN HIRING

While the results of the pilot are impressive, we still observed hiring biases against racialized minorities, women, and workers over 35.

While the results of the pilot are impressive, we also observed a worrying trend: There was a significant hiring bias against racialized minorities. In particular:

- Racialized minorities were half as likely as non-racialized candidates to receive a formal interview (our industry partners met candidates during training). When interviewed, they were one quarter as likely to receive a job offer. This bias held for racialized minorities who were born in Canada or abroad, and irrespective of how long they resided in Canada.

There were also biases against women and workers over 35. Specifically:

- Women received 28 percent fewer job offers and took 32 percent longer to secure a position than men; and

- Workers over 35 years received 16 percent fewer job offers and took 43 percent longer to secure a position than younger workers.

After each job interview, we canvassed employers for their reactions. The main reasons given for not hiring racialized candidates was over-qualification, language skills, or insufficient Canadian experience.

It is important to remain cautious about these findings. Ours is a relatively small data set so these results are prone to significant statistical errors. Our methodology for choosing program participants may also introduce sample bias.

INSIGHTS FOR POLICY MAKERS

With the efficacy of our model for upskilling and talent deployment established, we will now consider public policy development in the context of the future of work. Through our research and development at Palette, and our experience on the ground designing, delivering and evaluating the pilot, we have captured and distilled a number of insights for policy development in this field.

BUILD DEMAND-DRIVEN, INDUSTRY-LED PROGRAMMING

The underlying requirement for success in our model is to use a demand-driven approach.

Our starting point was to bring together a consortium of firms seeking similar talent, and work closely with them. This gave us a deep understanding of the core skills that employers were seeking in job candidates. We did this because a prerequisite to designing a program is to develop an understanding of employer needs, which creates an extensive set of jobs suited to our program participant.

In addition to identifying the core skills that employers need, we also ask that they help shape curriculum delivery. The more effort a skilling program puts into identifying hiring partners at the outset—and then involving partners in program design—the more likely it is that employers will trust the process. They will be less likely to pay attention to attributes that might previously have been viewed as barriers, including non-traditional career paths and lack of industry-relevant referrals. Pulling this together, and showcasing that these workers can apply their previous knowledge to a new context, actually makes cross-sectoral career transition a strength instead of a weakness.

UNDERSTAND HIRING INDICATORS AND PROXY VALIDATORS

Earlier, we discussed the findings from our research that employers consider three indicators when making a hiring decision:

1. **Were they referred by someone I know or do I know someone that can vouch for them?**

2. **Do they have work experience in a company like mine?**

3. **Do they have the right skills and mindset for the job?**

We argued that these are proxy indicators for verifying a growth mindset, acquisition of soft skills, ability to operate in specific work environments, and ability to do the job.

Such proxies are needed because companies generally receive hundreds of applications for a single job so struggle to qualify and vet talent pools. Employers with whom we engaged all spoke to wanting employees who have a desire to learn, who have a commitment to personal growth, and who possess strong communication and other professional skills. Recognizing how difficult it can be to identify such candidates, employers almost all turn to automated systems to screen and review resumes as their first vetting step. Such systems cannot screen for many of these qualitative skills effectively. And while employers we talked with recognize they may be eliminating ideal candidates, they don't see an alternative.

We noted through this process that mid-career workers are often judged less on their credentials, which employers expect to become dated the longer one is in the workforce, and more on their job history. Referral networks help employers and candidates navigate the job market and figure out how to translate previous experience into value in a new role. A lack of these things creates significant friction for a mid-career job seeker engaging in hiring processes, especially when the processes are designed to avoid risk.

By understanding the importance of these indicators, we were able to design a program that provided proxies employers could use for evaluation. Participating in working sessions and collaborative projects allowed employers to gain a sense of participants' professional skills, while engaging in role-playing and simulations showed employers how participants may operate in a work environment. We found that these activities broke down barriers just enough to create a window of opportunity for the participant to get an interview where they had previously struggled to be seen.

CREATE PROCESSES TO VET NON-TRADITIONAL TALENT

Because participants were actively seeking a learning opportunity, employers viewed our entire talent pool to be prequalified, highly coachable, and hungry to learn.

Our robust application and vetting process ensured candidates were the right fit for the program, and that they started with a baseline of skills and competencies that were easy to build upon. We achieved this without considering previous work experience or education credentials in our assessment. This ensured we did not subconsciously preference the most traditionally qualified workers. This demonstrated a clear value to employers: We brought them high-quality workers through SalesCamp who were far-removed from those they normally consider. Our vetting process served as part of the proxy validation employers needed to feel confident to invite participants for interviews. It also reduced the time it would otherwise have taken employers to create a pool of vetted candidates.

Because these participants were actively seeking a learning opportunity, employers viewed our entire talent pool to be prequalified, as highly coachable, and hungry to learn. For an industry that puts a

premium on growth mindset as an employee attribute, yet struggles to assess it in candidates, this created significant additional value for partners.

We accomplished this by thinking carefully about what core competencies participants needed to demonstrate, and limited our application process to focus on those factors. As a result, we were able to attract participants with the right foundational skills from a wide array of employment backgrounds. The participants who we did not select for our program generally either lacked English proficiency or lacked a genuine interest in a career in sales. A full demographic breakdown of participants is included in the appendix.

ENGAGE A USER-CENTERED DESIGN PROCESS

With our design partner, OCAD U CO, we developed the SalesCamp pilot using a user-centred design process. Throughout the development phase, we were guided by the needs of all parties involved in the program. We worked directly with and listened to people to ensure we were designing a relevant, meaningful and impactful program that would reach its objectives. We focused on three key actions:

1. **Talking to employers about what they need and what matters to them.** We worked with our employer partners to understand their sales cycle, team organization, and the needs they saw within their current teams to develop an understanding of how we could best support them. We had broad conversations about changes to the world of work, and the emerging needs of employers not addressed in traditional training programs, including professionalism, communication skills and empathy.

2. **Involving mid-career workers in helping to design the program.** We developed connections with mid-career workers in the process of looking for training to move to other careers, or who had completed training and made significant career transitions in the past year. These mid-career advisors helped us understand what skills, supports and resources made their journeys easier, and what they felt they lacked when faced with making a career change. We recognized the need to include training that was less about technical skills development and more about creating the conditions for resilience through change, which informed our program design.

3. **Working with our partners to ensure a seamless fit between all of our program segments.** Working closely with our partners, we designed the program to leverage the unique skills and strengths gained through each partnership, while ensuring we ran a cohesive program. This enabled us to provide a best-in-class service by partnering with organizations that were leaders in their fields—as opposed to trying to build everything ourselves. Creating a seamless experience for our participants—both industry and workers—was vital to maintain our credibility as a provider that could help them bridge the gap between opportunity and employment in a non-traditional way.

Leveraging this approach ensured our programming stayed grounded in what really mattered, uncovered significant insights around user behaviour that strengthened the program, and allowed us to iterate rapidly throughout the process.

CONSIDERATIONS WHEN SUPPORTING MID-CAREER WORKERS

Mid-career workers are one group particularly ill-equipped to deal with the challenges of the changing nature of work and how it broadly affects all areas of the labour market. Mid-career workers have spent much of their career in the same industrial sector and may find their jobs changing dramatically or being eliminated altogether due to automation. Often with significant responsibilities (families, mortgages), they may have little desire, interest or ability to restart their careers by going back to school for a new degree or diploma. They are likely willing to engage in skills training, but only if it is well-aligned to job placements. Any skills training should leverage both their education and their work experience, thereby delivering the "last mile" of skills necessary to successfully transition into new, meaningful employment as quickly as possible.

SUPPORT PEOPLE BEFORE THEY LOSE THEIR JOB

Most workforce development programs are accessible only to people who are already unemployed. This approach makes sense if the focus is purely to minimize the number of people out of work and reattach them to the labour market as quickly as possible. It is a position that is inherently supply-side focused, placing less attention on the talent needs of fast-growing companies and more on worker employment. However, this approach does not necessarily distinguish between low-quality employment (precarious, limited growth opportunities, low paying) and high-quality employment (stable and growing demand, significant job pathway growth, high paying).

This approach puts a band-aid on the challenge of unemployment, but it misses the opportunity to leverage workforce development and drive industry growth.

In a knowledge economy, workers can be the accelerant a firm needs to scale rapidly, which results in the generation of more revenue in the economy and more jobs overall for workers.

Targeting workers who are in precarious or high-risk jobs, but are currently employed, and retooling them to work in areas of the economy poised for rapid growth is positive for two reasons: It helps reduce barriers to growth for promising companies, and it is significantly cheaper than waiting until a worker is unemployed. Government expenditures on displaced worker reskilling is significant with EI benefits averaging $28,000 while re-skilling costs for someone chronically unemployed is an additional $26,000.

CONCLUSION AND NEXT STEPS

As we are develop Palette, we reflect on how our methodology could, one day, form the basis of a fully (or partially) private sector solution

The COVID-19 pandemic has made it abundantly clear that the future economic success of nations relies on their ability to transition to a knowledge-based economy. Perhaps there is no greater determinant to the success of this new economy than the availability of skilled workers. The nations that come out ahead will be those that build mechanisms that ensure a rapid deployment of such workers to the parts of the economy with the greatest potential. However, as we have seen, building such mechanisms is not straightforward.

In this paper we considered this challenge for the ICT sector— arguably the quintessential knowledge sector. We identified an expansive group of workers coming out of traditional sectors with strong customer-facing experience who demonstrated core skills for sales positions in ICT firms. We demonstrated that, while the processes these firms used to identify candidates overlooked these workers, it is possible to create a new system that results in extremely high placement rates for them.

Our findings have also uncovered additional potential barriers and biases that were previously hidden. Despite our program's access to networks, referrals, skills and employers, racialized minorities, women and older workers were consistently asked to engage in fewer interviews and had to wait longer for job offers than others in the program. We note that additional experimentation is required to validate these biases and, if the biases are confirmed, mitigation strategies will be needed. We have already begun to explore mitigation strategies and early indicators are pointing to some success. But much work remains.

From a public policy perspective, it is imperative that we understand how well these results hold beyond the ICT sector in the GTA. We have launched early discussions with the advanced-manufacturing sector in Windsor-Essex, the agri-tech sector in Leamington and the logistics sector in Durham. In all three cases, firms are pointing to a lack of talent as their greatest hurdle in expanding their business. Additional research and experimentation are needed to determine whether an inherent lack of skills is present or whether other biases are creating a perceived talent shortage.

We are cognizant that sectors like ICT are not homogenous across Canada. For example, the ICT sector in Vancouver has a significantly greater focus on digital media and entertainment than in Toronto. Vancouver also has a much smaller base of companies and there are far fewer mid-size tech firms in the city. Will our results hold in this market?

We caution that our work to date has focused exclusively on business-to-business sales roles for the ICT sector. We have not validated our results for other high-demand roles for this sector. Fast-growing ICT

firms we consulted identified a plethora of difficult-to-find skills, both technical and business. Whether a ready supply of workers exists with the foundational skills to meet this broader need remains an interesting question that needs further exploration.

As we are continue to develop Palette, we often reflect that we are bridging a system failure and are curious how our methodology could, one day, form the basis of a fully (or partially) private sector solution. Our early thinking is that we will need a system-wide approach to determine which class of workers has the foundational skills for at-demand employment, because the proxies industry is currently using (experience in the sector, trusted referrals) cannot easily be replaced.

By gaining a deeper understanding of this space, we could develop insights that touch on many public policy areas. This includes reimagining our post-secondary system to be responsive to continual skilling needs, aligning our immigration policies to areas of greatest need, and developing strategies to gather labour market data at a sufficiently granular level that we can feed it into our skilling system. Getting this right is critical for Canada to become a knowledge economy leader.

APPENDIX

ABOUT PALETTE

Palette was developed by Arvind Gupta and AJ Tibando and launched in 2017 in partnership with the Brookfield Institute for Innovation + Entrepreneurship (BII+E) and funded in part by the Government of Canada. The authors wish to acknowledge the many people and organizations who supported the development of Palette, including program funders and the Palette team, through which we generated many of the insights included in this report.

PALETTE'S MODEL

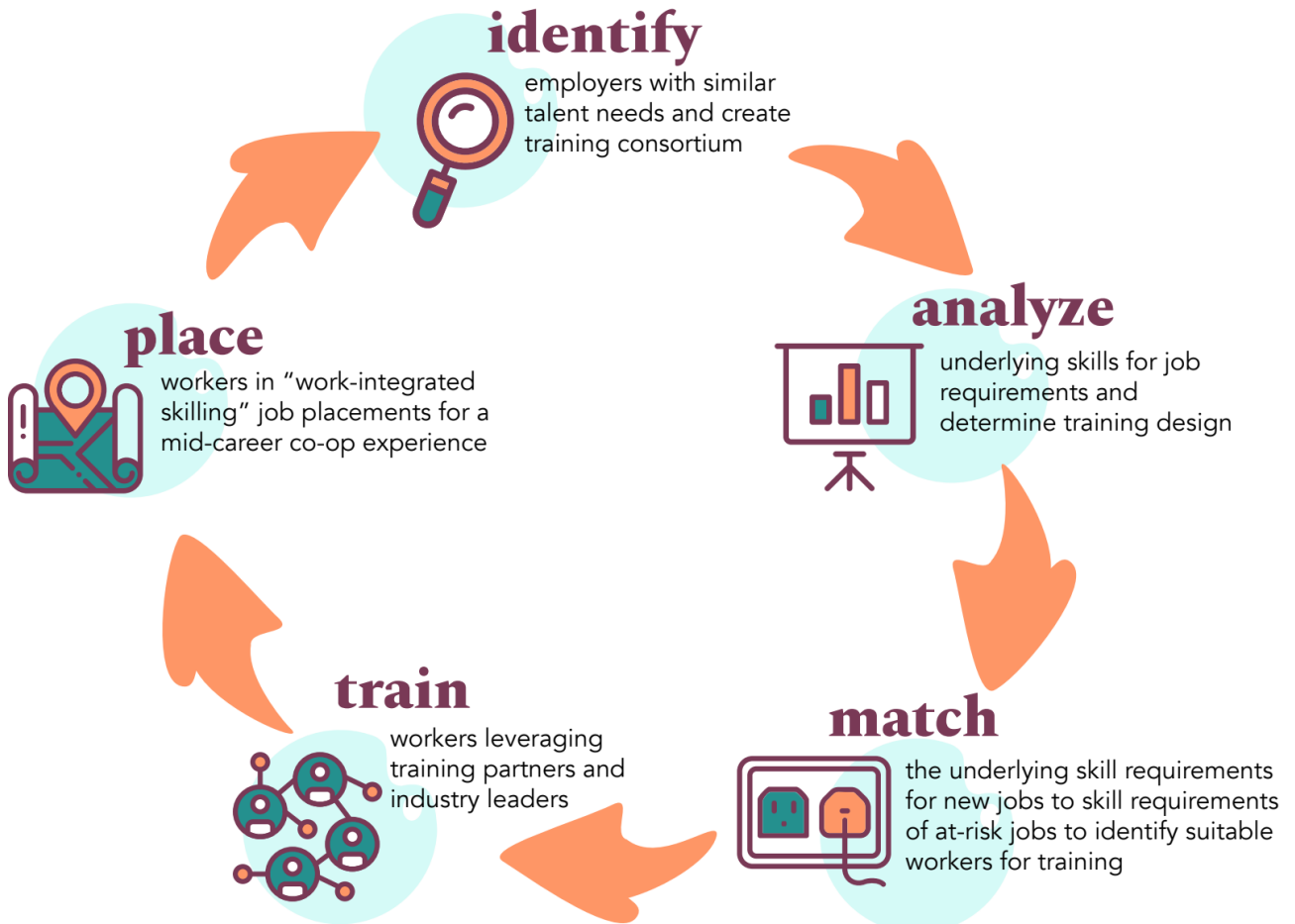There are four core components to the Palette model:

1. **Create industry consortium:** Identify a consortium of firms with similar skills needs, willing to engage in novel approaches to address talent needs.

2. **Identify skilling participants:** Seek out a cross-section of potential workers as participants in Palette programming who have the foundational skills to meet the needs of the industry consortium.

3. **Create industry-led training:** Deliver in-person skills training through a series of exercises and projects led by the industry consortium for Palette participants in a formal skilling environment.

4. **Deploy work-integrated skill experience:** Building on best practices in the work-integrated learning space, create job placements focused on enhancing skills.

Our model works with the employer consortium to identify the core skills required and to help shape curriculum delivery. The latter involves industry-specific case studies and projects led by experts from the consortium, akin to a flipped co-op.[20] This interactive, hands-on training ensures that Palette participants develop highly relevant skills grounded in employer needs. At the same time, pedagogically, this provides participating employers the opportunity to see first-hand how well participants perform and evaluate their ability to integrate at their firm. The result is an enhanced skilling environment and a network of industry leaders who provide knowledgeable and confidential referrals to opportunities, as appropriate.

Finally, we have developed the novel Work Integrated Skills Experience (WISE) program, which is a key component of our skilling process. WISE consists of three- to four-month job placements with employers offering program participants a chance to enhance requisite workplace skills. These opportunities increase the likelihood of the employer offering permanent employment, while also ensuring participants have the opportunity to build their in-sector experience and network for future job opportunities.

OPERATING MODEL

We have developed an operating model for program development that involves five key steps:

identify employers with similar talent needs and create training consortium

analyze underlying skills for job requirements and determine training design

match the underlying skill requirements for new jobs to skill requirements of at-risk jobs to identify suitable workers for training

train workers leveraging training partners and industry leaders

place workers in "work-integrated skilling" job placements for a mid-career co-op experience

Palette, 2018.

STEP ONE: IDENTIFY

Target a sector where firms create a strong demand for talent, and create a consortium of hiring partners.

STEP TWO: ANALYZE

Analyze the in-demand skills to ascertain foundational skills, sector-specific skills, and firm-centric skills. Create skilling pathways, from foundational to sector-specific skills in collaboration with the hiring partner consortium.

STEP THREE: MATCH

Identify worker pools whose existing skills match the required foundational skills. In particular, seek workers with experience in roles that are "skill-adjacent" to the identified foundational skills.

STEP FOUR: TRAIN

Leverage a variety of experiential learning and job simulations from which the worker pool can develop sector-specific skills. Involve the industry consortium at all levels so that workers can demonstrate their abilities through a "show, not tell" approach to learning. The workers will practice new skills in a safe environment and then use these experiences in future interviews.

STEP FIVE: PLACE

Create opportunities for introductions, networking and interviews between the employer consortium and just-skilled workers to help candidates secure new jobs in the targeted sector.

DEMOGRAPHIC BREAKDOWN OF PALETTE PARTICIPANTS

Of the 58 participants that went through Palette's programming in 2019–2020, the demographic breakdown is as follows:

AGE:

Age range					
< 25 years	25–34 years	35–44 years	45–54 years	54–64 years	55–64 years
3%	57%	25%	11%	2%	2%

RACE:

Racial self-identification	
Person of colour (visible)	White (Caucasian)
75%	25%

GENDER:

Gender self-identification		
Female	Male	Non-binary
57%	41%	2%

*Note: Palette's third cohort of programming was an all-female sales bootcamp

EDUCATION:

Highest level of education				
Bachelor's	Diploma	High school	Master's	PhD
51%	14%	3%	30%	2%

EMPLOYMENT STATUS:

Employment status (at the time of application)				
Employed full-time	Employed part-time	Not employed but looking for work	Self-employed	Student
35%	8%	40%	10%	8%

NEW CANADIANS:

Immigration Status		
Immigrant (not born in Canada)	Non-immigrant (born in Canada)	Prefer not to say
62%	37%	2%

END NOTES

[1] See for example: Papadopoulos, Anna. January, 2019. Most Startup Friendly Countries in the World. CEOWorld. https://ceoworld.biz/2019/01/02/most-startup-friendly-countries-in-the-world-2019/

[2] Impact Centre. March 2019. Measuring Canada's Scale up Potential. University of Toronto.

[3] The Global Unicorn Club. CB-Insights. December 2019. https://www.cbinsights.com/research-unicorn-companies

[4] At the current employment growth rate in ICT, this gap, if unaddressed, will grow to 80,000 employees by 2025. Extrapolating to the overall knowledge economy, this gap is likely 120,000 workers today and 150,000 by 2025.

[5] This phrase became popularized in the 2010 report by Rick Miner, called People Without Jobs, Jobs Without People.

[6] In this paper the term "professional skills" refers to what are often called "soft skills", including communication, critical thinking, leadership.

[7] For more information on the Mitacs organization visit www.mitacs.ca

[8] Tibando, AJ and Andrew Do. March, 2018. Understanding the Talent Gap: Lessons + Opportunities for Canada. Brookfield Institute for Innovation + Entrepreneurship. https://brookfieldinstitute.ca/report/understanding-the-talent-gap/

[9] See for example: Sullivan, Kathryn. 2018. Talent in Transition: Addressing the Skills Mismatch in Ontario. Ontario Chamber of Commerce.

[10] We define non-traditional workers here as workers who do not fit the standard profile of a worker in the industry or sector of focus.

[11] Munro, Daniel. March 2019. Skills, Training and Lifelong Learning. Public Policy Forum. Page 13.

[12] Munro, Daniel. Skills, Training and Lifelong Learning. Page 13.

[13] Munro, Daniel. March 2019. Skills, Training and Lifelong Learning. Public Policy Forum. Page 7.

[14] Munro, Daniel. Skills, Training and Lifelong Learning. Page 17.

[15] Ibid. Page 17.

[16] Description taken from www.ontario.ca/employment

[17] Description taken from www.ontario.ca/secondcareer

[18] Office of the Auditor General Ontario. November 2016. 2016 Annual Report. Page 263.

[19] Office of the Auditor General Ontario. November 2016. 2016 Annual Report. Page 263.

[20] Whereas a co-op involves a student attaining skills by going into a workplace, in our model companies come into a formal training space and bring real-life case studies and projects to participants in Palette programming.