

Career & Technical Education in NYC: A Comprehensive Survey

Part II: Employer Responses

April 2015

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Introduction

Introduction

- This survey and analysis describe the current status of Career and Technical Education (CTE) activities in NYC schools from the perspective of educators and employers. The data collected provides a baseline for continued improvement of CTE initiatives that prepare NYC students for college, advanced training, and successful careers.
- Mayor de Blasio, Chancellor Fariña, and the NYC Department of Education have prioritized the transformation of CTE schools and programs. They have already set in motion many of the actions and structural changes necessary to better engage employers and provide schools with the resources they need to offer more effective and well integrated CTE programs.
- Part I of this survey was conducted at the end of 2014, with a 90% response rate from schools and program managers, providing information from 48 dedicated CTE schools and 84 schools with CTE programs.
- Part II of the survey was conducted in the first quarter of 2015, drawing on school and program responses to identify 733 employers that are currently involved with CTE, including 333 for-profit businesses, 299 nonprofit institutions and 101 government agencies. (Businesses include 74 employers with estimated 500 employees or more.)

Methodology

Methodology

Employer survey

- **233 online surveys** were completed by New York City employers during February and March 2015.
- Responses represent the views of **221 unique employers** from government, business and the nonprofit sector that are actively engaged with CTE schools and programs.
- Employers were identified by CTE schools, nonprofit service providers, and the Department of Education.
- The survey was open for three weeks and generated an overall response of **22% completion**.

Schools survey

- **119 online surveys** were conducted across CTE schools in New York City during October 2014.
- The sample consisted of both CTE dedicated schools and schools with CTE program(s).
- The survey was open for two weeks and generated an overall response of **90% completion**.
- The CTE dedicated school population was a census with **100% response**.

Key findings

Key findings

Observations from survey data	Challenges	Recommended Actions
Survey responses were wide-ranging, reflecting lack of consensus among schools and CTE partner organizations, and highlighting the fragmentation of the city's CTE universe.	Fragmentation makes achieving a more integrated and effective system difficult. Complex regulatory, contractual and legal requirements, as well as federal and state funding formulas, exacerbate the problem.	Identify the strongest leaders to represent schools, nonprofit service providers and employers to form a leadership network that will work with DOE and City Hall to plan and implement the integration and transformation of the CTE system, including needed reform in state laws and regulations.
Employers find that CTE students are academically well-prepared for internships and schools agree that work-based learning helps ensure student success post-graduation.	Fewer than 2% of high school students in CTE schools or programs get an internship and these tend to be higher achieving students who compete for few opportunities.	There should be a concerted effort to secure more internships, but it will remain hard to source internships for all CTE students. A continuum of work-based learning opportunities and mentorships should be put into place system-wide, so that a broader cross section of CTE students are introduced to a relevant workplace experience.
Employers are largely engaged with CTE as a charitable activity, not because they plan to hire CTE students.	Most participating employers require a college or graduate degree for majority of hires. With a few exceptions, CTE does not provide a clear path from high school through college or advanced training.	Expand pool of employers to include more that directly hire high school and community college graduates, including outsourcing and temp agencies. Build long term career and educational plans into CTE programming and use the data system to follow student milestones beyond high school.
Employers are discouraged by the lack of a clear, overarching structure or comprehensive plan to support and coordinate individual CTE initiatives.	The CTE infrastructure of public agencies and nonprofit intermediaries is too complex and often not aligned with employer or industry expectations. Intermediaries lack the capacity to recruit and manage sufficient numbers of employers and work experience opportunities.	Reorganize the CTE network so that all participating employers are plugged into a system that is easy to understand and navigate. A handful of "best in class" intermediaries should be identified to recruit and manage effective employer engagement.

Key findings

Observations from survey data	Challenges	Actions
There is a serious shortage of quality work experience opportunities for CTE students. Nonprofit intermediaries do the best job of securing internships and mentor commitments from employers. Schools lack resources to adequately develop and manage work experience activities.	There is inadequate public funding to support full time school-based work based learning coordinators, to fund internships or to expand contracts with nonprofit intermediaries. As a result, only a handful of CTE students get paid internships and only a small number of private sector employers are effectively engaged with CTE programs.	Survey results should be used to set targets and identify budget requirements for meeting expanded mentoring, internship and work experience objectives, in collaboration with “best in class” nonprofit service providers and a much larger pool of employers. Achieving these targets should be centralized and not left to individual schools.
Most schools report the need for greater employer engagement, employer integration and overall employer relationships. Employers cite bureaucratic red tape and slow response time as the biggest obstacles to greater involvement.	The current practice of leaving employer engagement and CTE program management to individual schools, scattered nonprofits and multiple advisory councils is too fragmented and inefficient to be successful.	Employer CTE relationships need to be coordinated through a city-wide, centrally managed system, with clear lines of authority and decision-making capacity. Ultimately, schools and nonprofit service providers must be accountable to the Mayor and Chancellor, as well as DOE borough offices and District Superintendents.
There is a need for greater integration of academic course work and CTE training to ensure that CTE graduates are well prepared for advanced training, college and careers.	Among CTE schools and programs, there is no system-wide consensus on the right balance of technical and academic skills, hard and soft skills development. Updating of CTE curriculum and credentialing to conform to changing workplace demands is erratic.	CTE initiatives should be organized around industry verticals to enable a collective effort to support curriculum updates and professional development of teachers in relevant career categories.
Employers and CTE schools and programs agree that CTE teachers are generally prepared to teach content that is relevant to today’s workplace.	Today’s workplace is rapidly changing, with new technologies, equipment and skills requirements being introduced at an unprecedented pace.	Professional development of CTE teachers, as well as school leaders, should be ramped up and complemented by introduction of adjunct teachers drawn from industry. A formal annual needs assessment to inform curriculum and credentialing is needed to ensure CTE remains aligned with the job market.

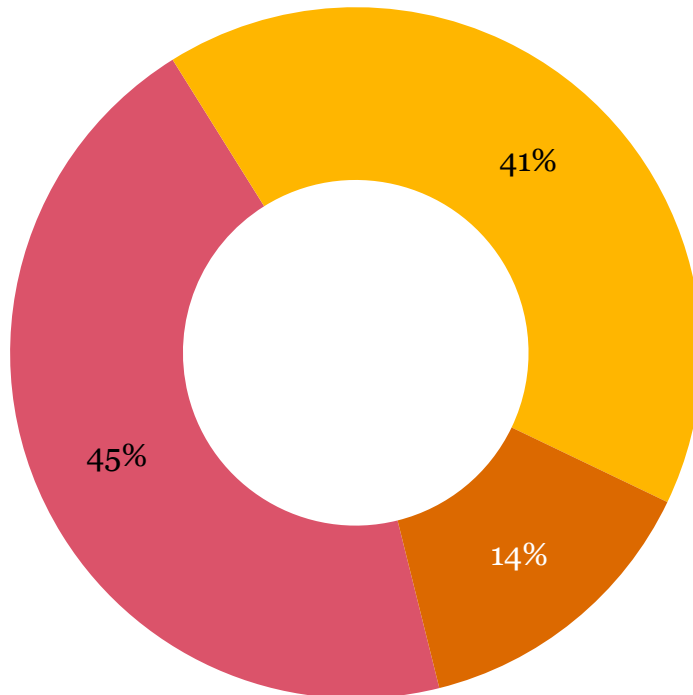
Key findings

Observations from survey data	Challenges	Actions
<p>Schools and nonprofit service providers are not comfortable sharing their relationships and resources.</p>	<p>Turf protection is a barrier to system integration, scaling of best practices and broader employer engagement.</p>	<p>Create an online database that makes relationships and resources transparent, and establish a funding and accountability system that rewards those who collaborate and share.</p>
<p>Employers and educators cite inadequate or poorly allocated resources as a key obstacle to improving employer engagement and CTE outcomes.</p>	<p>Schools and nonprofits identify inadequate staffing and funding for internships and programs as key challenges; businesses are looking for improved planning, communication, and better organization.</p>	<p>The CTE budget should be reconsidered in response to survey results, including more funding for managing relationships between schools and employers, for internships, and for nonprofit intermediation between schools and employers.</p>
<p>Schools and employers complain about poor infrastructure, particularly in terms of lack of technology and automated tracking systems, that are necessary to support long term commitments and better outcomes in terms of preparation for higher education and employment.</p>	<p>Individual CTE schools and programs each have responsibility for their own student population, employer relationships, and support services with minimal support from the central system. Consequently, infrastructure is fragmented and the quality is uneven, depending on the ingenuity and relationships at the school or program level.</p>	<p>CTE Industry Commissions were recently established and, if strengthened and effectively staffed, could provide the framework for building system-wide infrastructure to support individual school efforts. The City's Chief Technology Officer should be engaged in setting up a comprehensive system to track student progress as well as school and industry engagement.</p>

Profile of employers

Overall, 758 NYC employers participate in CTE programs in the public schools

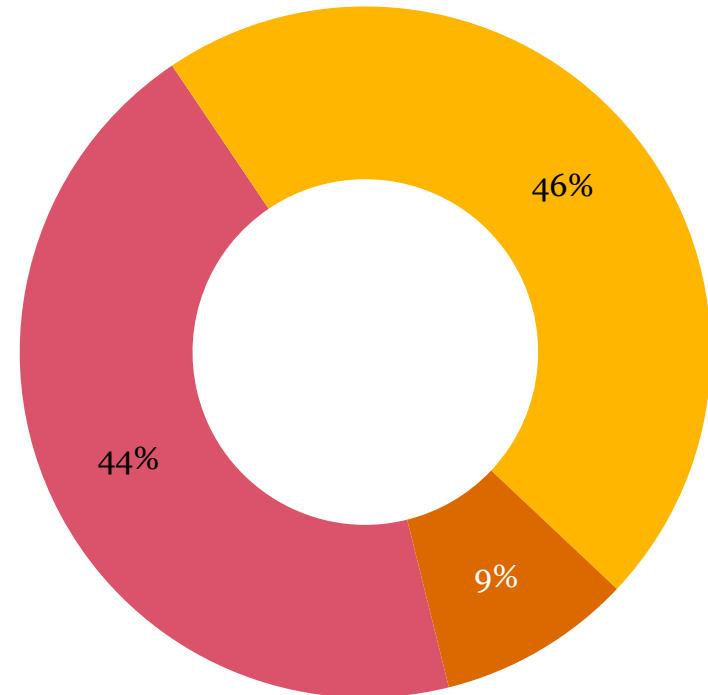
Identified Employer Partners



■ Business ■ Nonprofit ■ Government

Base: 733

Survey Responses



■ Business ■ Nonprofit ■ Government

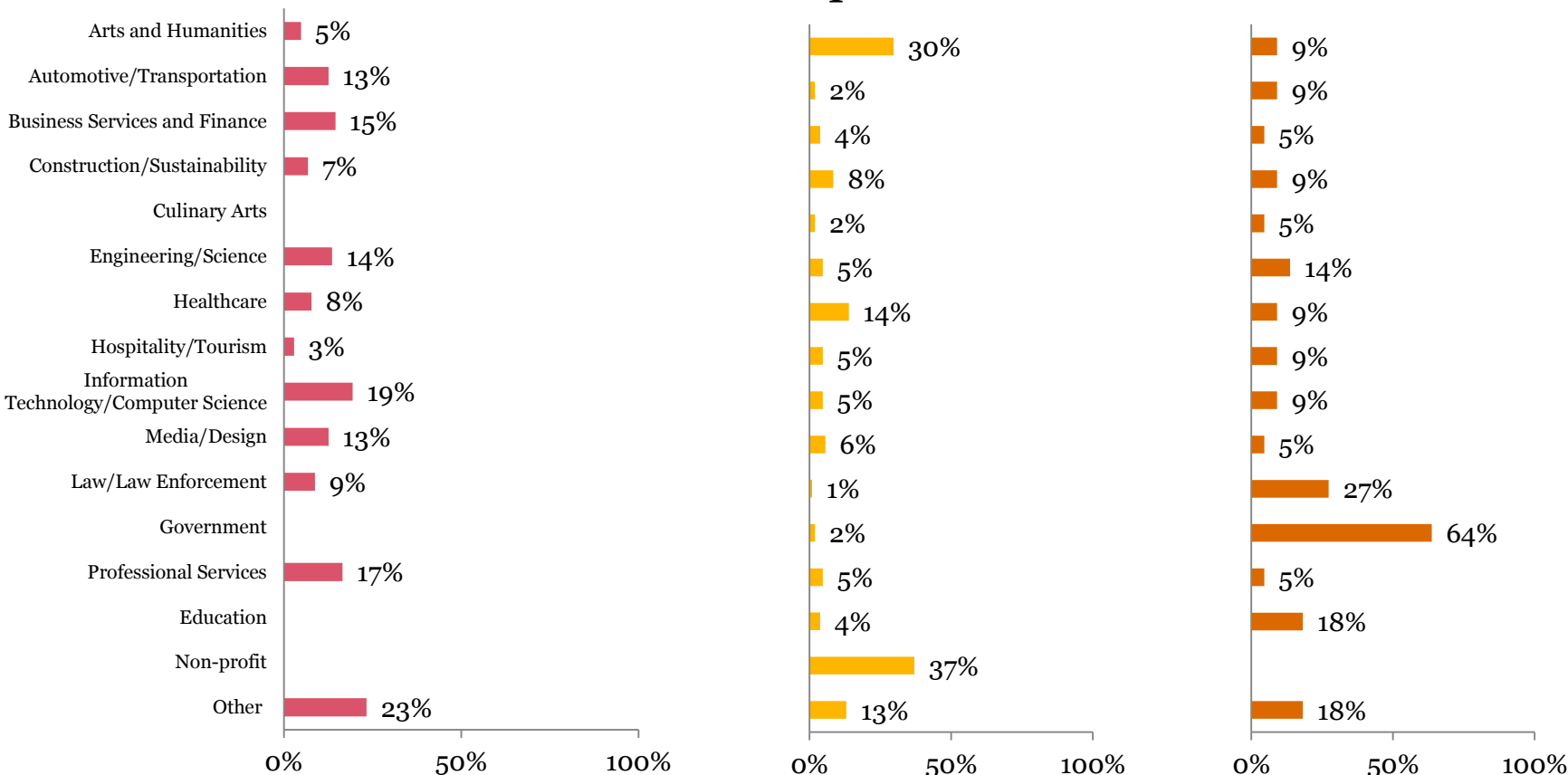
Base: 233

Sectors represented by employer responses

Business

Nonprofit

Government



Base: 103 (Business)

Base: 108 (Nonprofit)

Base: 22 (Government)

Note: Multi-response question

Respondents were asked to select the sector(s) with the 'best-fit' to their organization.

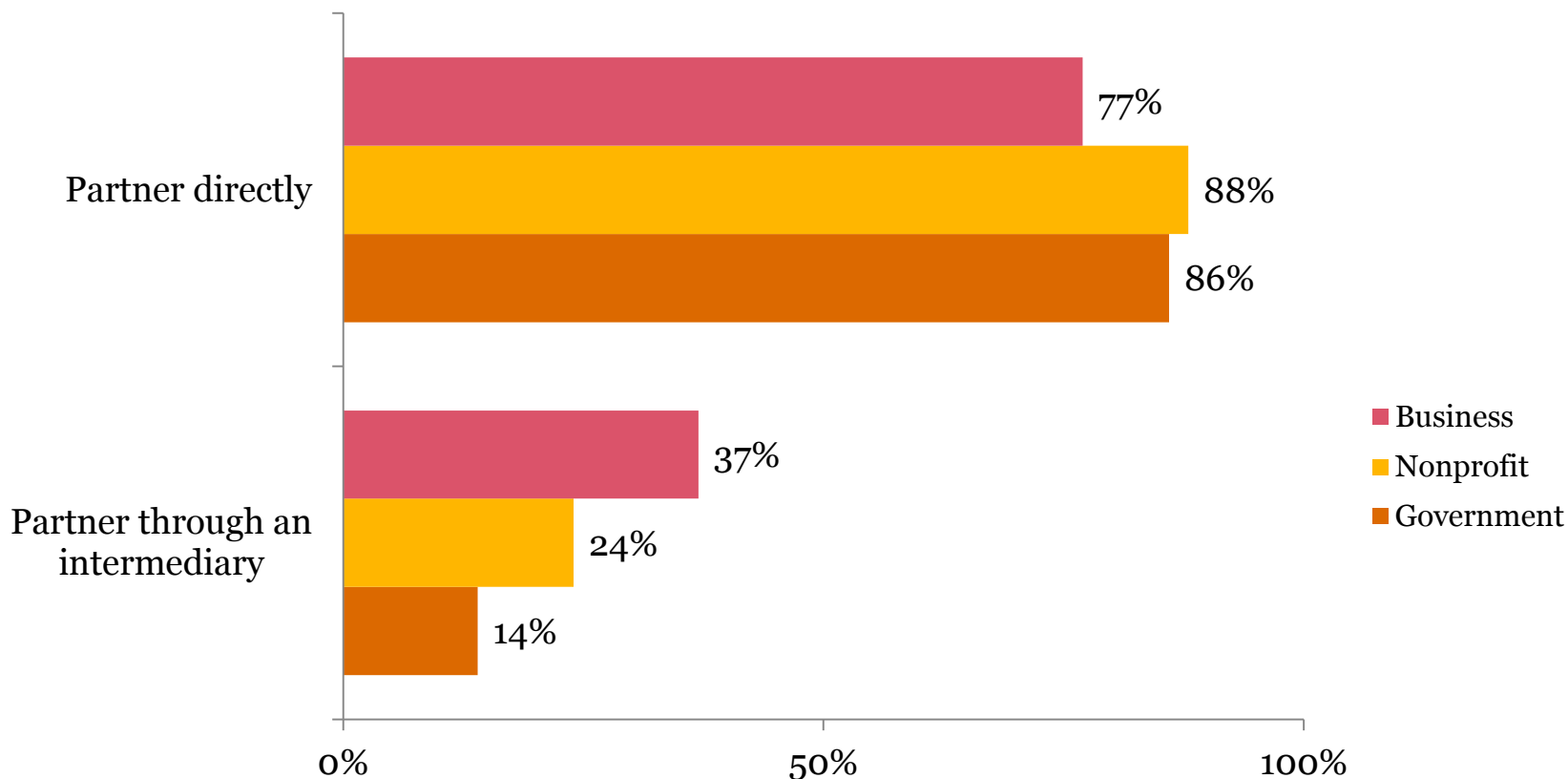
CTE Employer Survey

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Nature of partnerships

Q1.

Most employers are engaged directly with a school



Base: 103 (Business)

Base: 108 (Nonprofit)

Base: 22 (Government)

Note: This is a multi-response question

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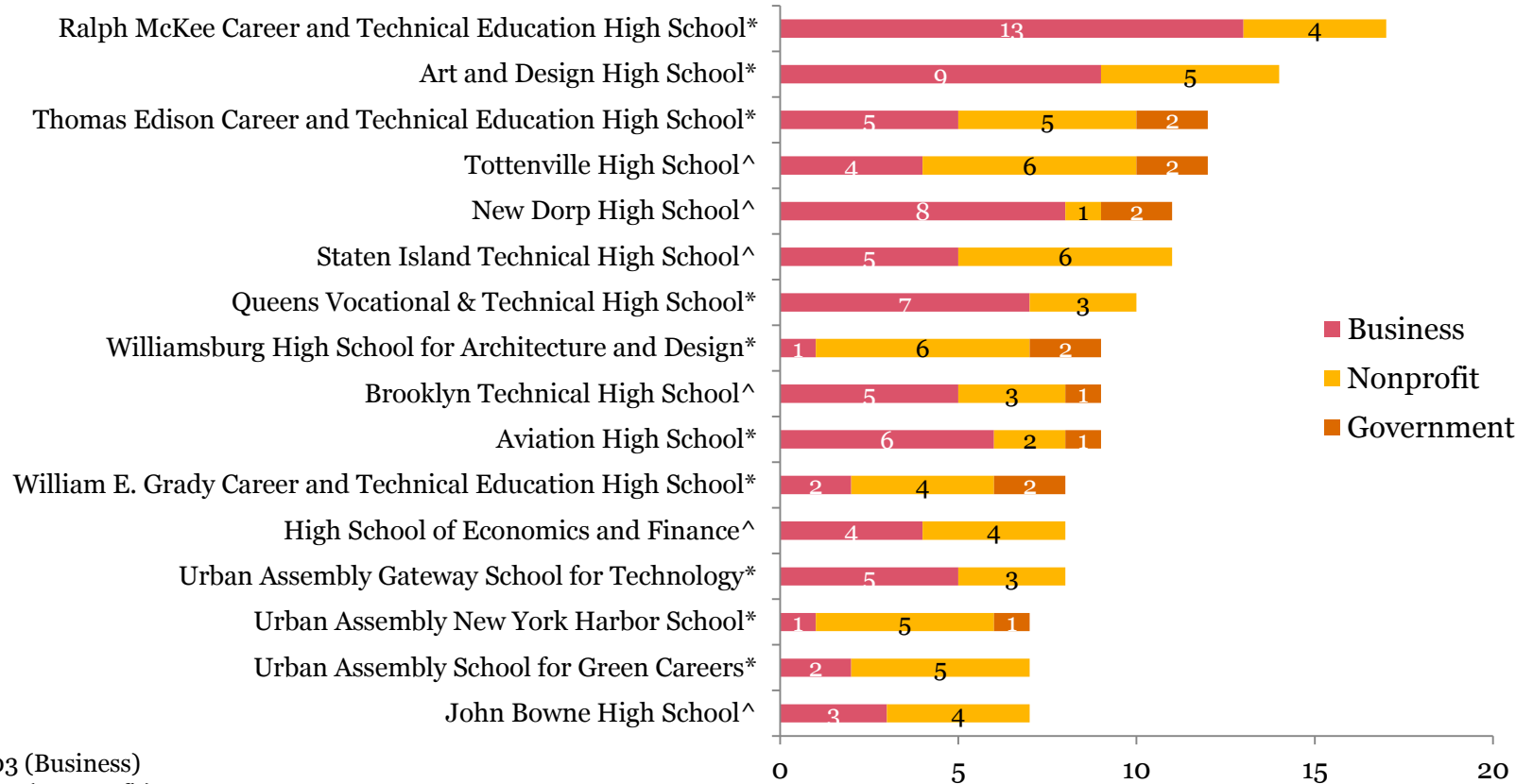
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Q2.

Schools with support from seven or more employers

Schools selected



Base: 103 (Business)

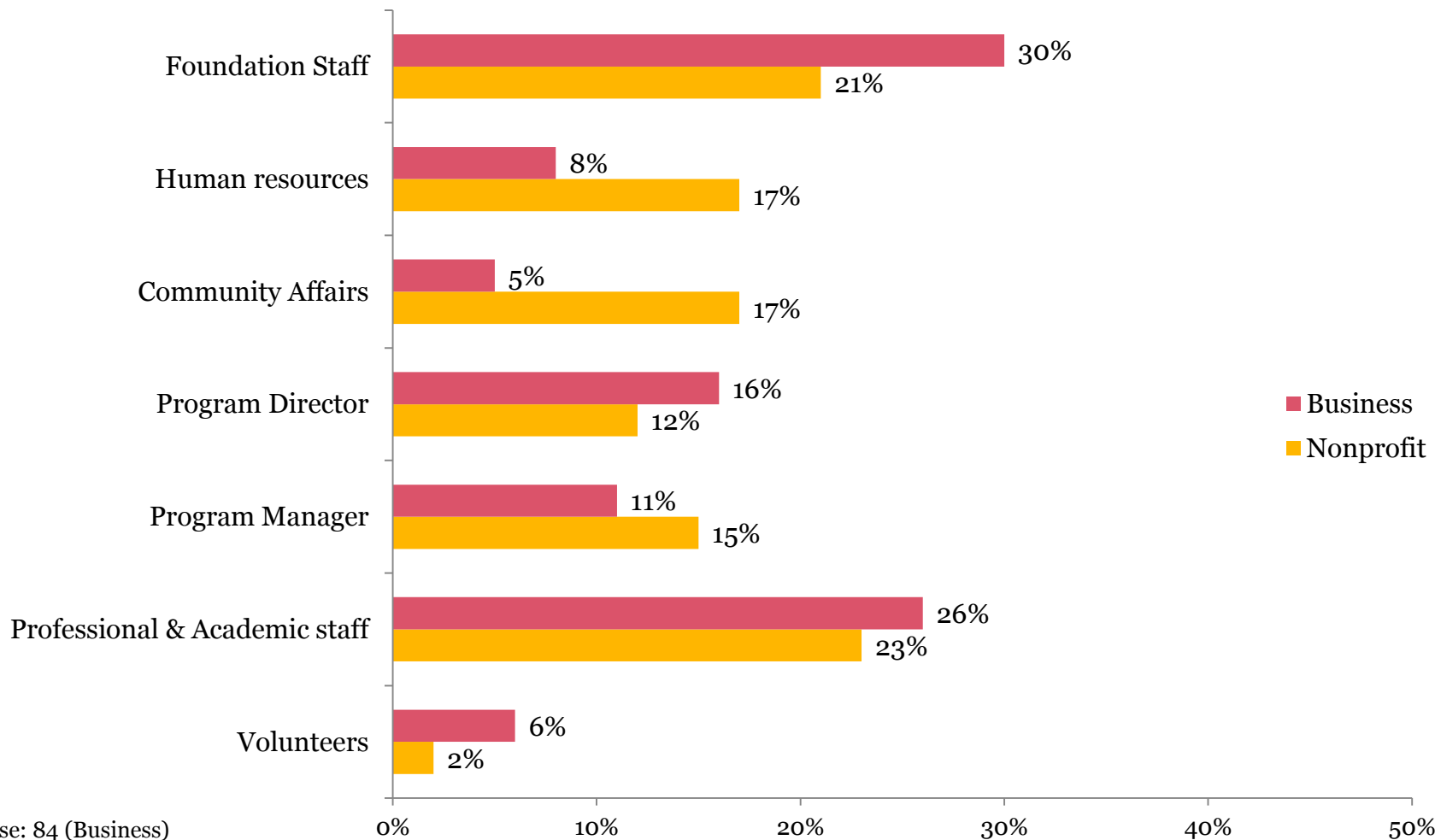
Base: 108 (Nonprofit)

Base: 22 (Government)

*CTE dedicated school ^CTE Program School

Q2b.

Lead employer CTE contact



Base: 84 (Business)

Base: 105 (Nonprofit)

Note: This is a multi-response question – chart combines survey data and key themes from employer comments

CTE Employer Survey

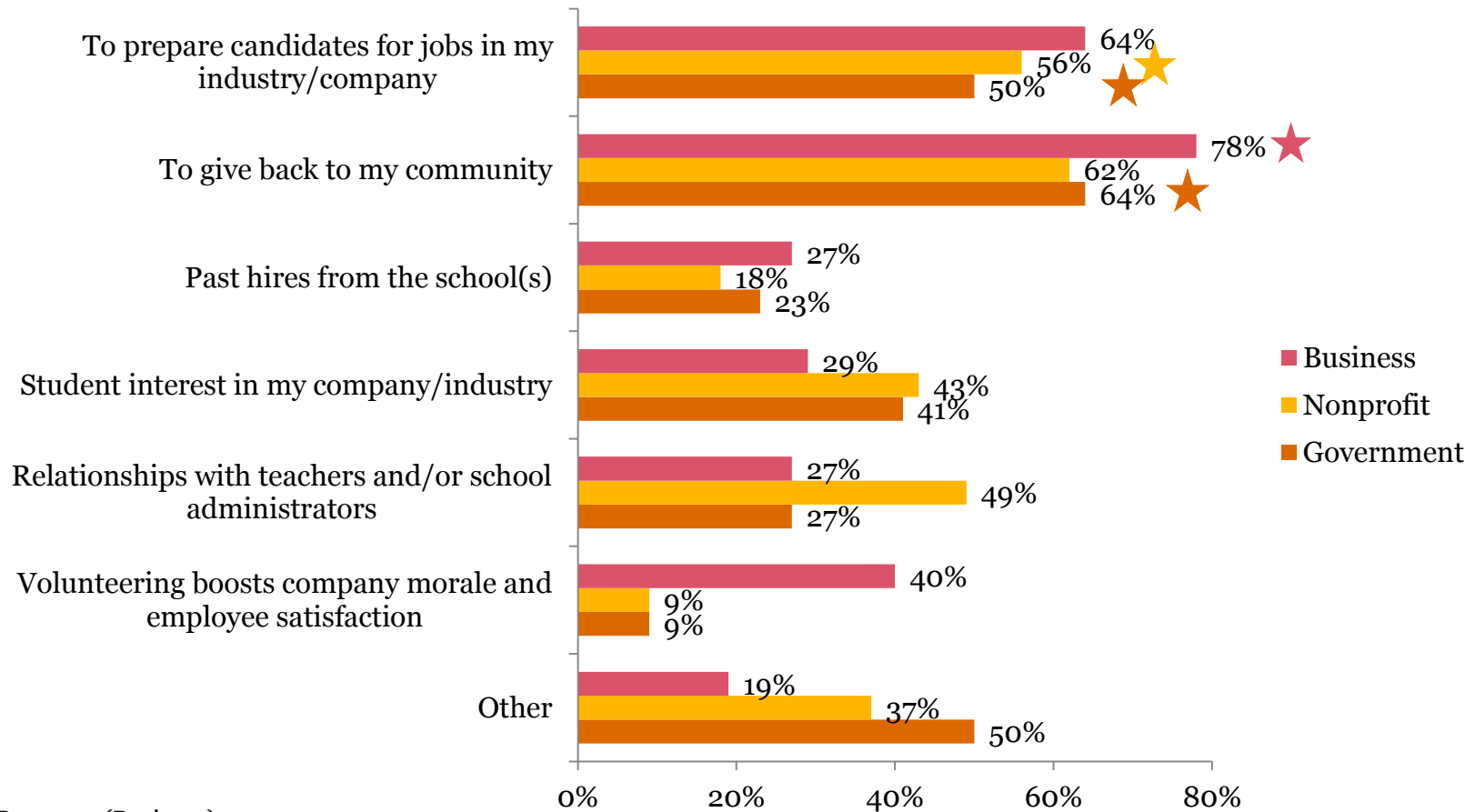
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Q2c.

Philanthropy drives employer engagement



Base: 103 (Business)

Base: 108 (Nonprofit)

Base: 22 (Government)

Note: Respondents were asked to rank their THREE most important factors.

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★ Option most frequently ranked number 1

Q2c.

Sample comments on reasons for engagement

Our mission is to advance the intellectual, social and artistic development of underserved students through arts-integrated education programs to close the achievement gap.

Great Education Strategy: resulting in keeping kids in school, giving them hope for careers and good jobs, effective college prep, giving students tools of value to the industry, helping raise the future standard of living - good for the economy.

Outreach to public schools will encourage minorities and economically deprived high school students to see career opportunities in our industry.

Our organization has the ability to expose students to job pathways that can lead to careers

CTE schools demonstrate higher retention and graduation rates for minority youth,

It changed my life when I did it as a kid.

College Preparation - Students matriculate to our campus.

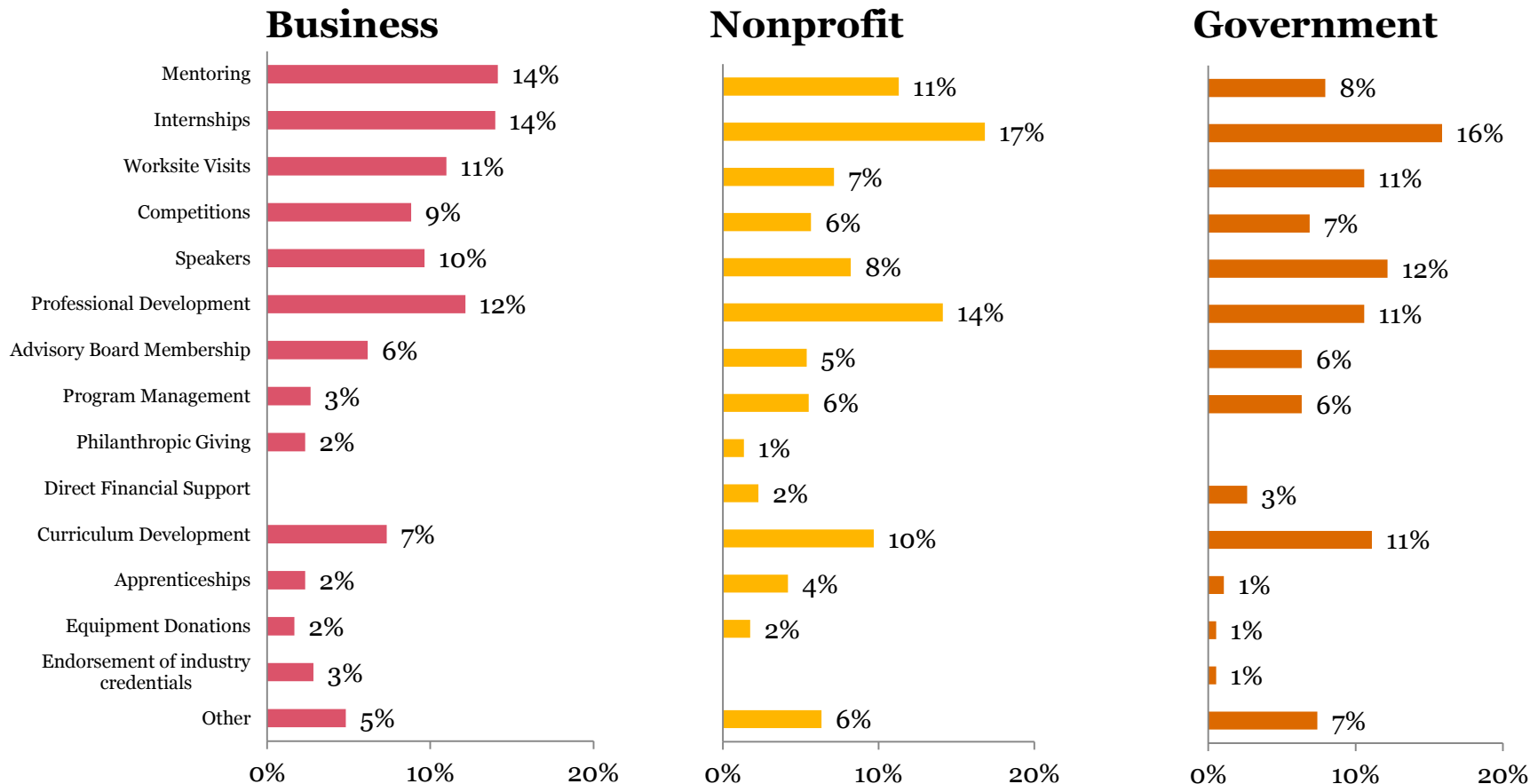
Help to forge linkages between high school and college,

Supporting public high schools is our core mission.

Part of our mission and vision is to prepare students and teachers for the real world with knowledge and skills to compete globally in the 21st century.

Q3.

Focus of CTE relationships: mentoring, internships & professional development



Base: 601 (Business)

Base: 743 Nonprofit)

Base: 189 (Government)

(Multi-response question: Base represents the count of total number of options selected)

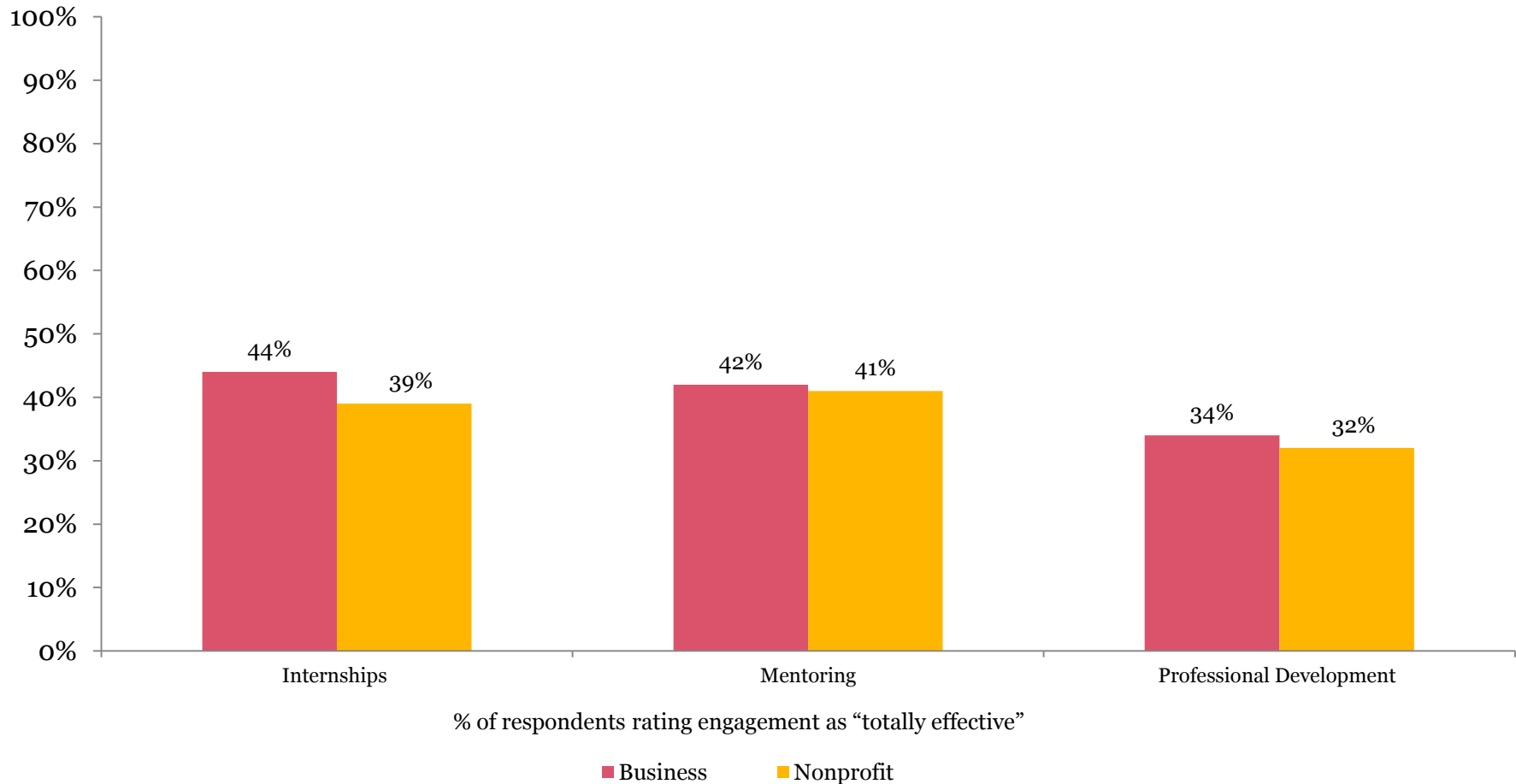
Note: The graph presents the number of times each option was selected across all schools selected at Q2

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Q4.

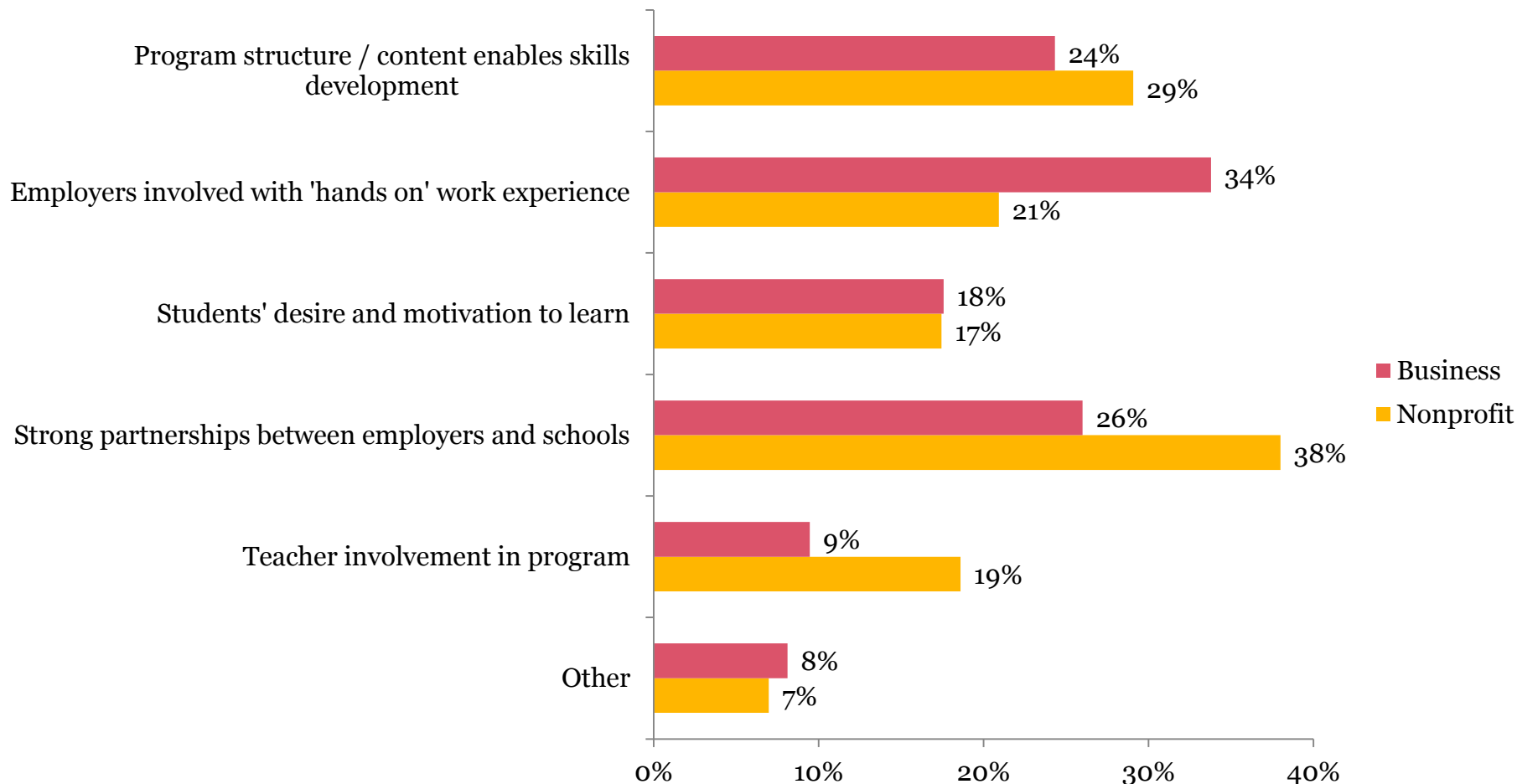
Fewer than half of employers rate key relationships as “totally effective”, suggesting much room for improvement



Note: Based on top 3 activities selected by Business and Nonprofit organizations at Q3

Q4b.

Factors that contribute to “effective” CTE partnerships



Base: 74 (Business) Base: 86 (Nonprofit)

Note: Multicoded response; respondents asked to select reason for success for programs rated “totally or very effective”.

Q4b.

Sample comments on effective CTE partnerships

Our Apprenticeship Program is a work-based learning program. Students set goals for skill development; staff make visits to the sites to support students and supervisors; students learn about professional communication, computer and other professional skills, accountability and responsibility, etc.

Students benefited from exposure to the real world experience they gained from site visits or internships.

The structure of the program - combining different approaches to learning content, working together, learning about careers through direct exchange with professionals over the course of a year-long program supports the efficacy of this program.

Internships provide a close up detailed look at working in the field. For both students and adult mentors, the professional experience links us - we have formed a professional and emotional bond across generations and cultures that is a very positive work relationship.

Student commitment and willingness to learn. Support of the staff at the school.

Highly motivated students and technically competent teachers.

The main attribute for success has been the students and their desire to learn. Their enthusiasm affects everyone involved and makes the program successful. The next most important attribute is the partnership and trust between the school leadership and the company. Willingness to take and incorporate feedback on both ends of the partnership leads to great collaboration and great programs for students.

Note: Question asked to those who selected 'Totally effective' or 'Very effective' for any activity at Q4

Q4c.

Sample comments on areas for improvement

Need more institutional support from the Department of Education.

Work-based learning needs to be outside of school to achieve a more real world experience. In-school activities such as career panels, guest speakers, etc. can support that learning, but are secondary.

Scaling initiatives to serve all students at partner school

Not enough real world study

No sustained levels of activity nor development of specific initiatives or feedback that is actionable.

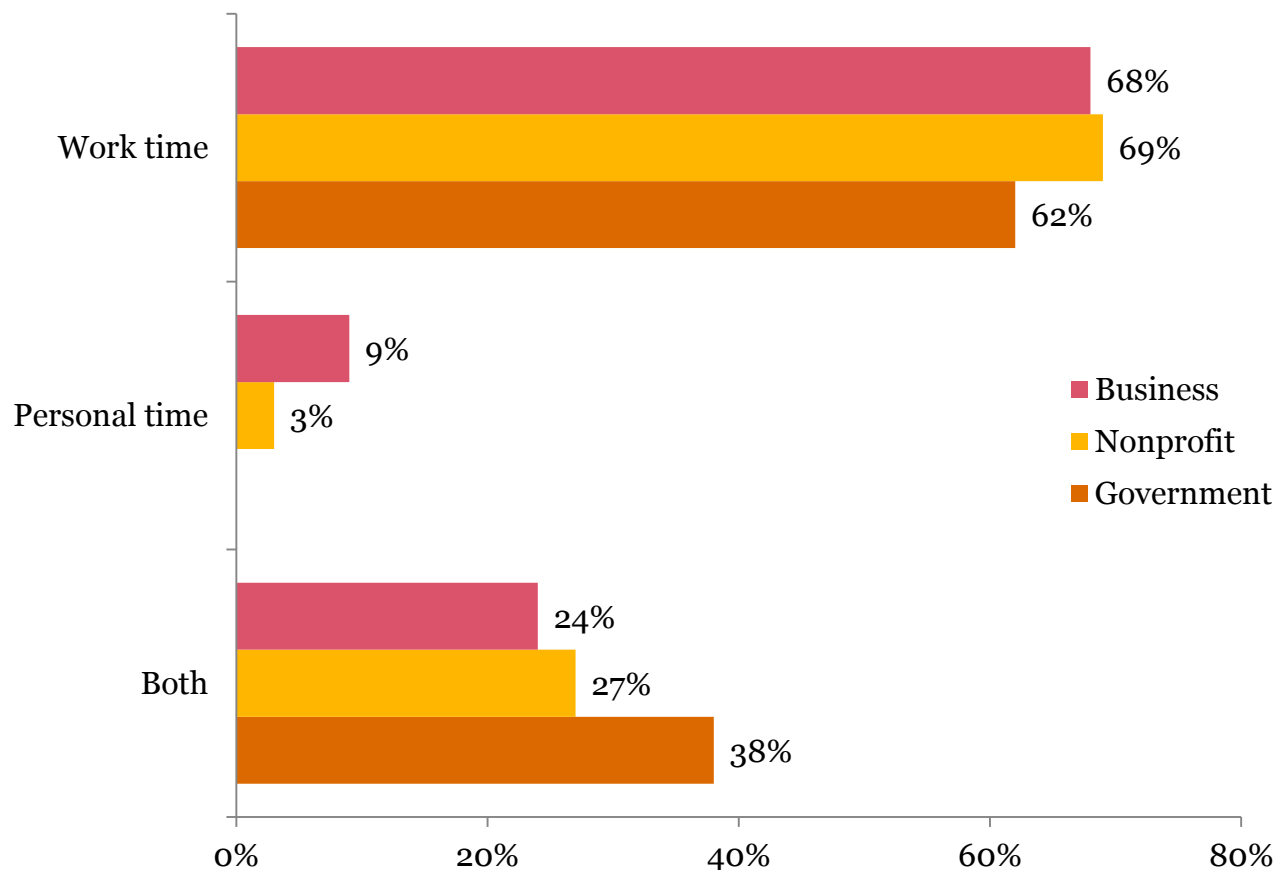
Worksite visits have been difficult to schedule, so there has not been one for two years. Advisory Board is weak and curriculum is not necessarily relevant.

Students should be better prepared for work experience.

Note: Question asked to those who selected 'Not very effective' or 'Not at all effective' for any activity at Q4

Q5.

Employers are largely involved with CTE on company time



Base: 102 (Business)

Base: 108 (Nonprofit)

Base: 21 (Government)

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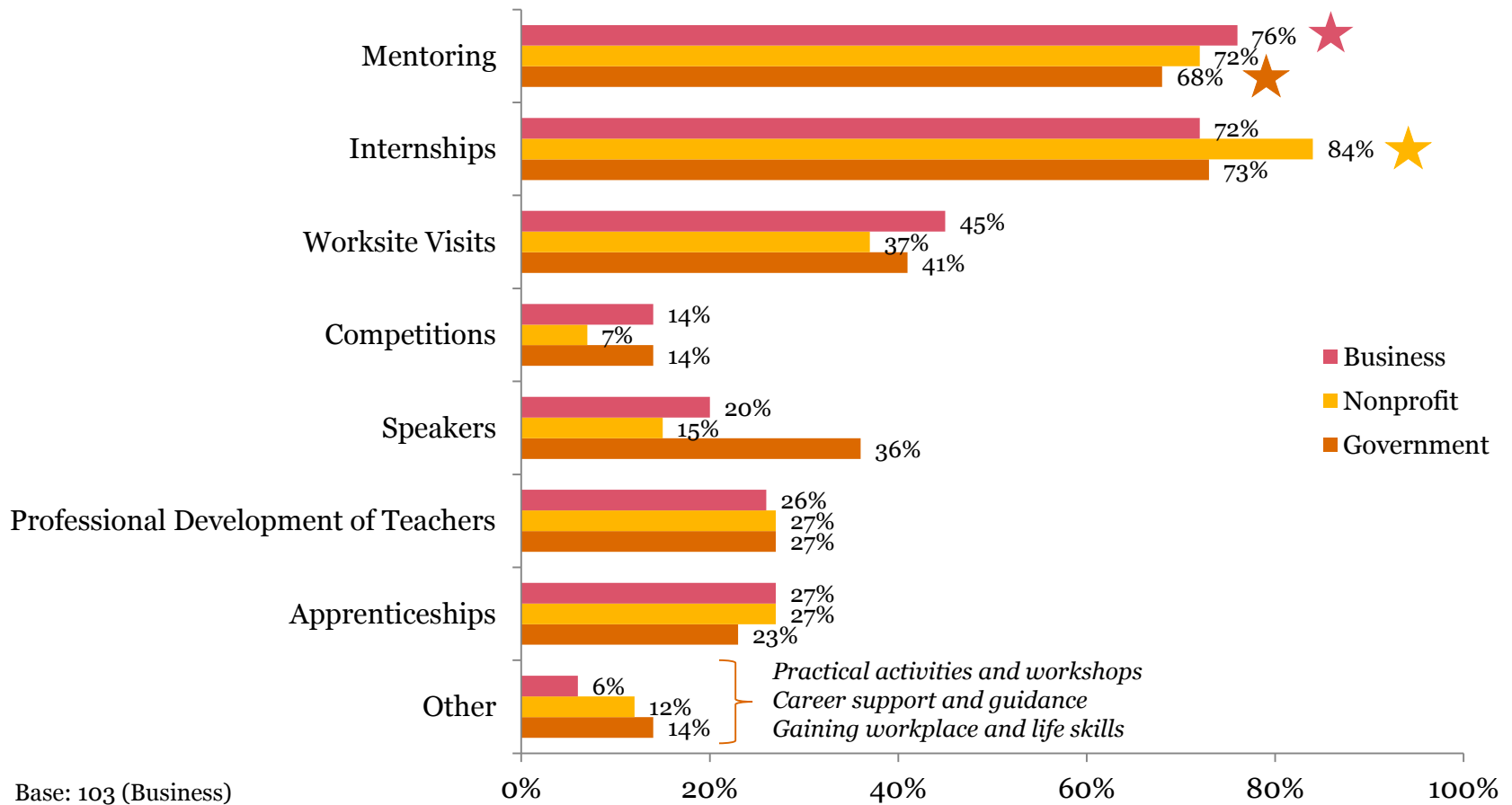
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Q6.

Activities that are most effective in preparing students for careers are mentoring, internships and worksite visits



Base: 103 (Business)

Base: 107 (Nonprofit)

Base: 22 (Government)

Note: Respondents were asked to rank the THREE most effective activities

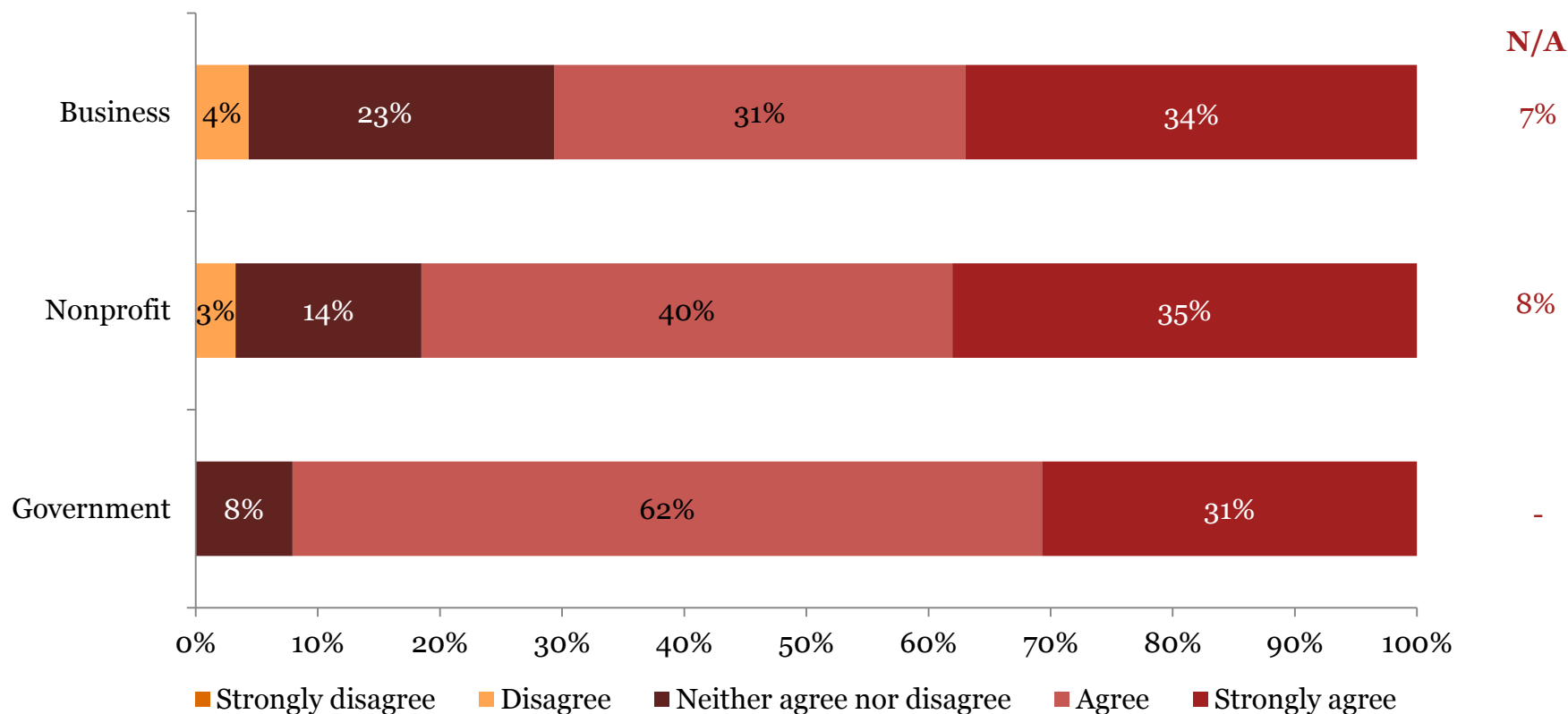
CTE Employer Survey

PwC

★ Option most frequently ranked number 1

Q7.

Teachers are generally prepared to teach content that is relevant to today's workplace



Base: 70 (Business)

Base: 77 (Nonprofit)

Base: 13 (Government)

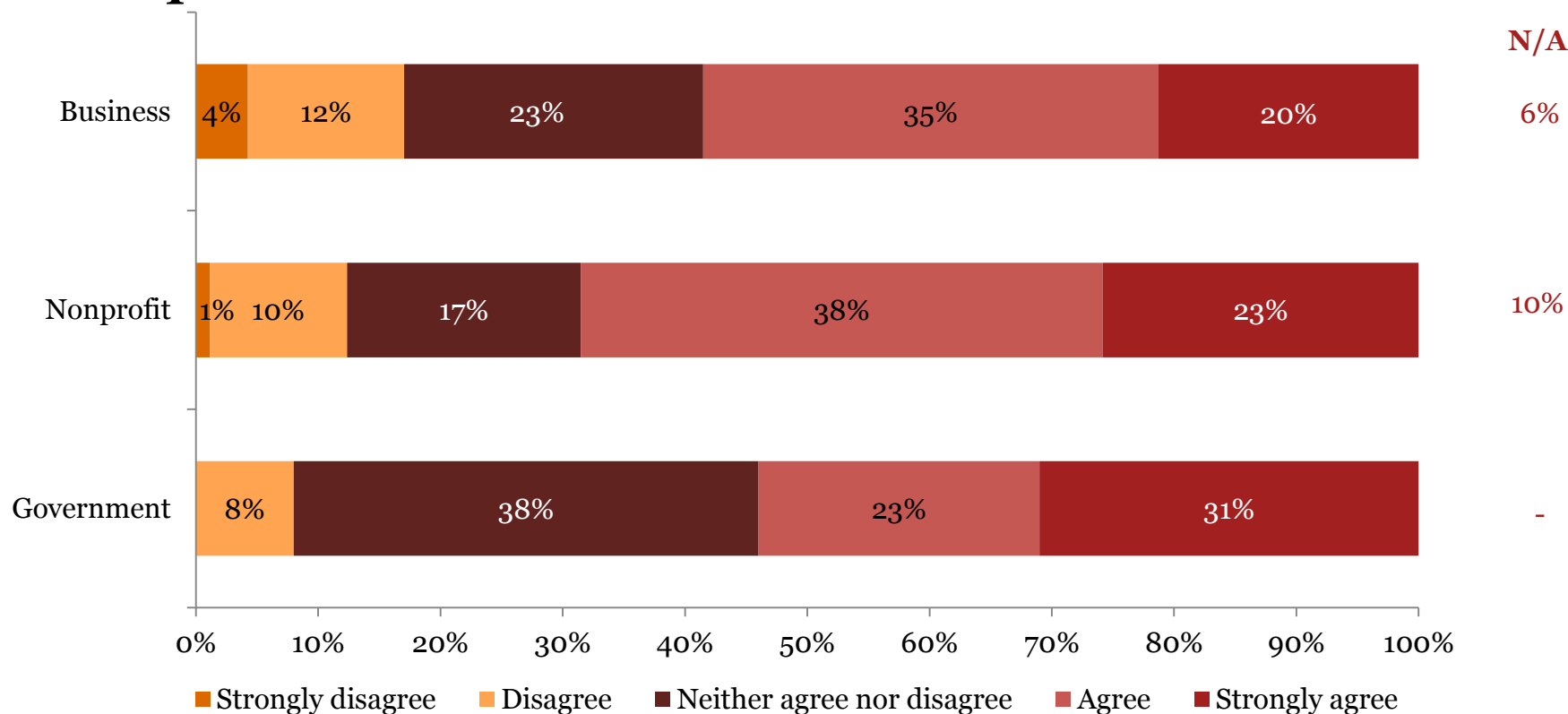
Note: Question asked to ALL who selected Competitions, Speakers, Professional Development, Advisory Board Membership, Program Management or Curriculum Development at Q3.

CTE Employer Survey

PwC

Q7.

Most students have access to equipment or computer programs that are similar to what is used in the modern workplace



Base: 69 (Business)

Base: 77 (Nonprofit)

Base: 13 (Government)

Note: Question asked to ALL who selected Competitions, Speakers, Professional Development, Advisory Board Membership, Program Management or Curriculum Development at Q3.

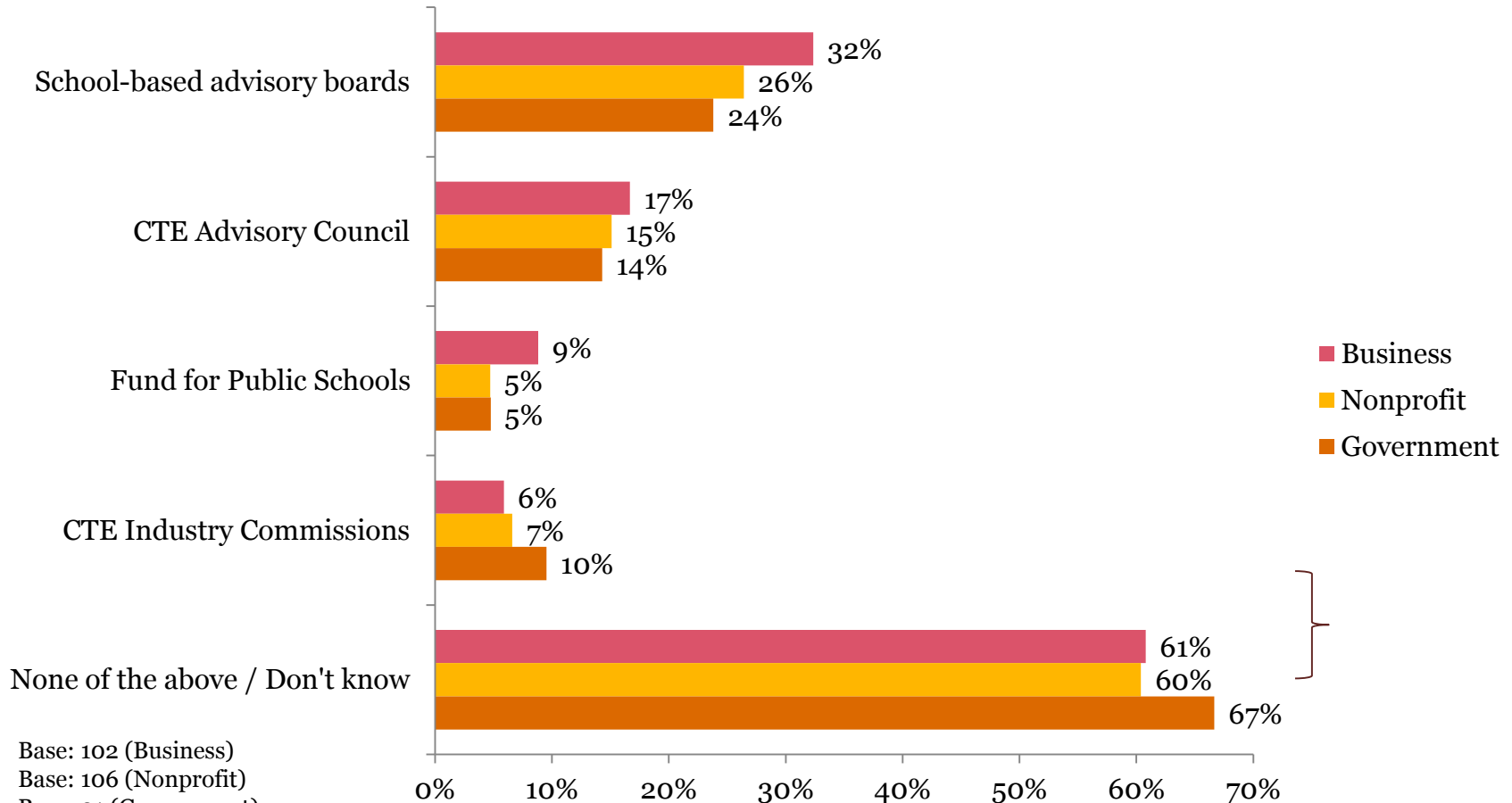
CTE Employer Survey

PwC

Employer Engagement

Q8.

Two-thirds of employers do not engage via the infrastructure designed for that purpose, with participation as follows:



Base: 102 (Business)

Base: 106 (Nonprofit)

Base: 21 (Government)

Note: This is a multi-response question

CTE Employer Survey

PwC

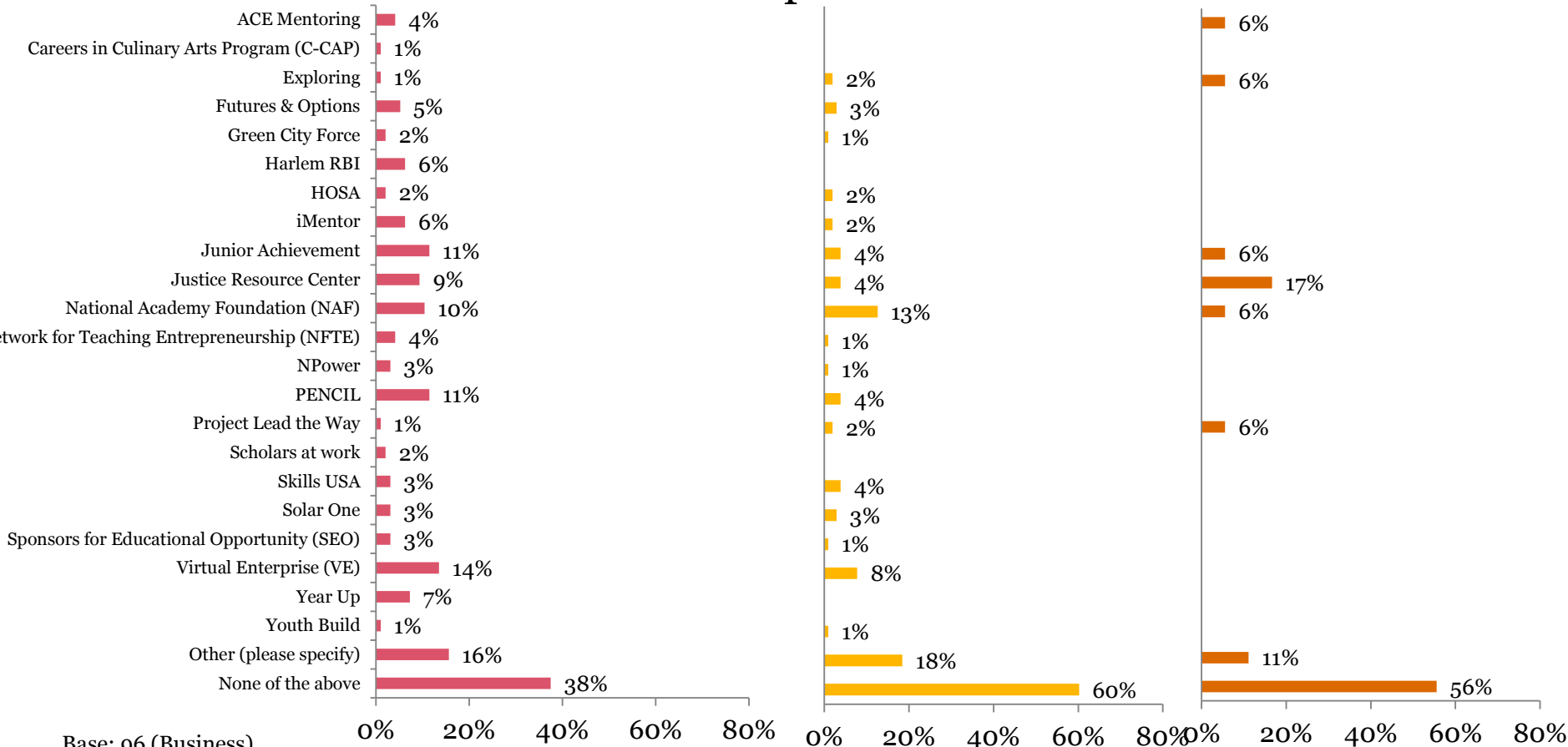
Q9.

CTE intermediaries with largest numbers of engaged employers: Virtual Enterprise, Pencil, Junior Achievement, NAF and the Justice Resource Center

Business

Nonprofit

Government



Base: 96 (Business)

Base: 103 (Nonprofit)

Base: 18 (Government)

Note: This is a multi-response question

CTE Employer Survey

PwC

Internships

Q10.

Business employers host the fewest CTE interns

Average number of interns hosted



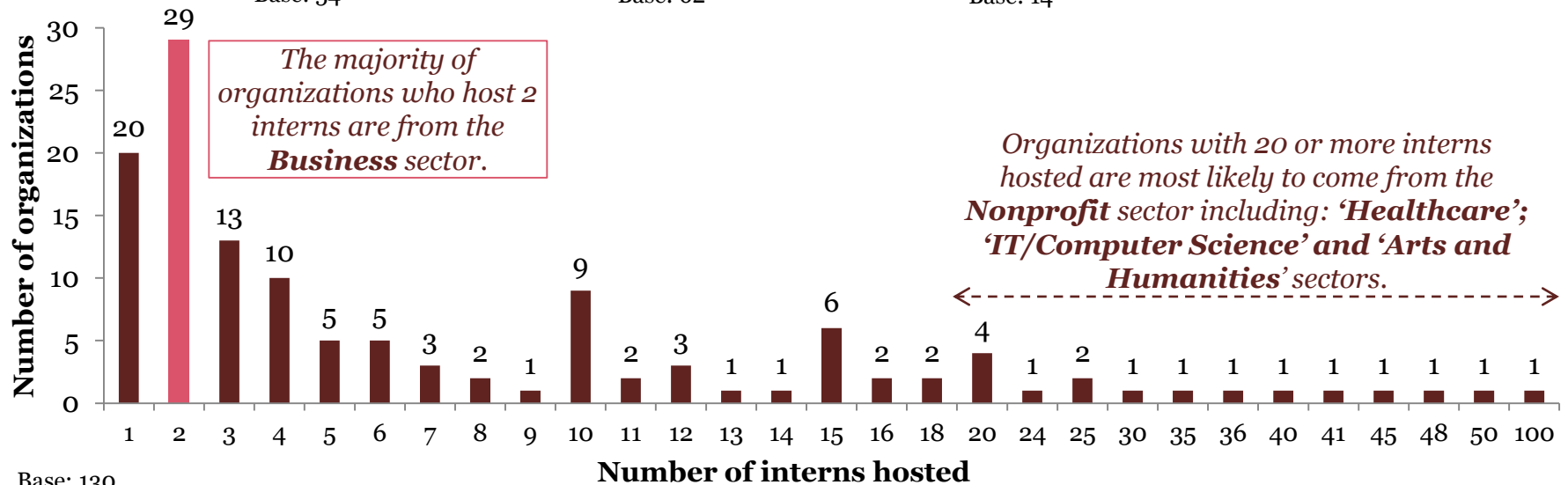
Base: 54



Base: 62



Base: 14



Base: 130

Note: Questions only asked to those who selected 'Internships' as an activity at Q3.

Note: Graph presents the distribution of interns hosted. This data is only based on respondents who provided a response to the number of interns hosted during the 2013-14 academic year.

CTE Employer Survey

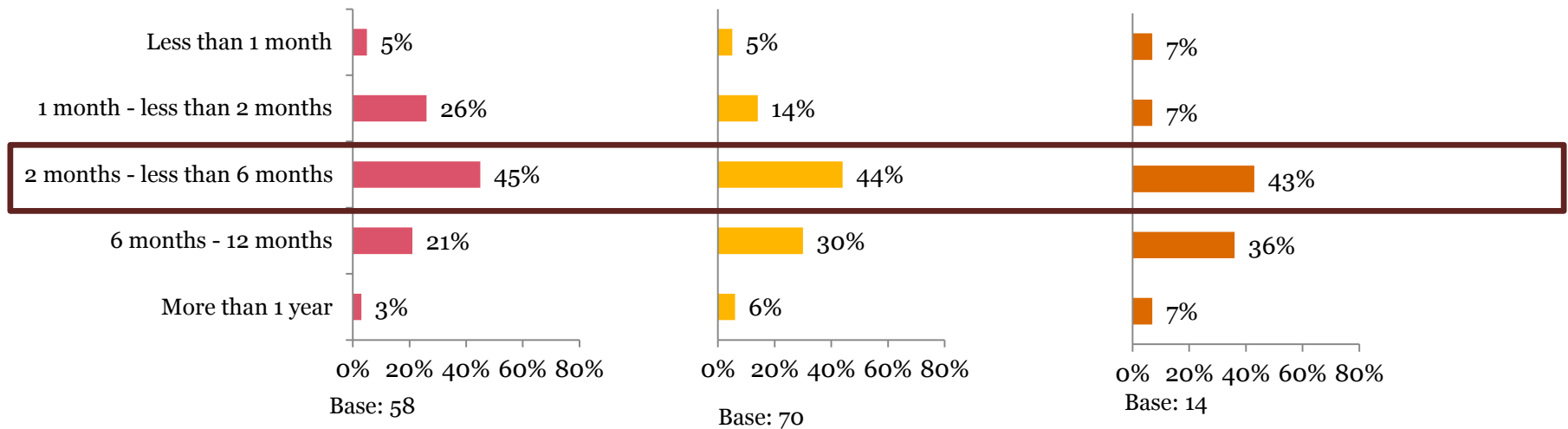
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Q10c.

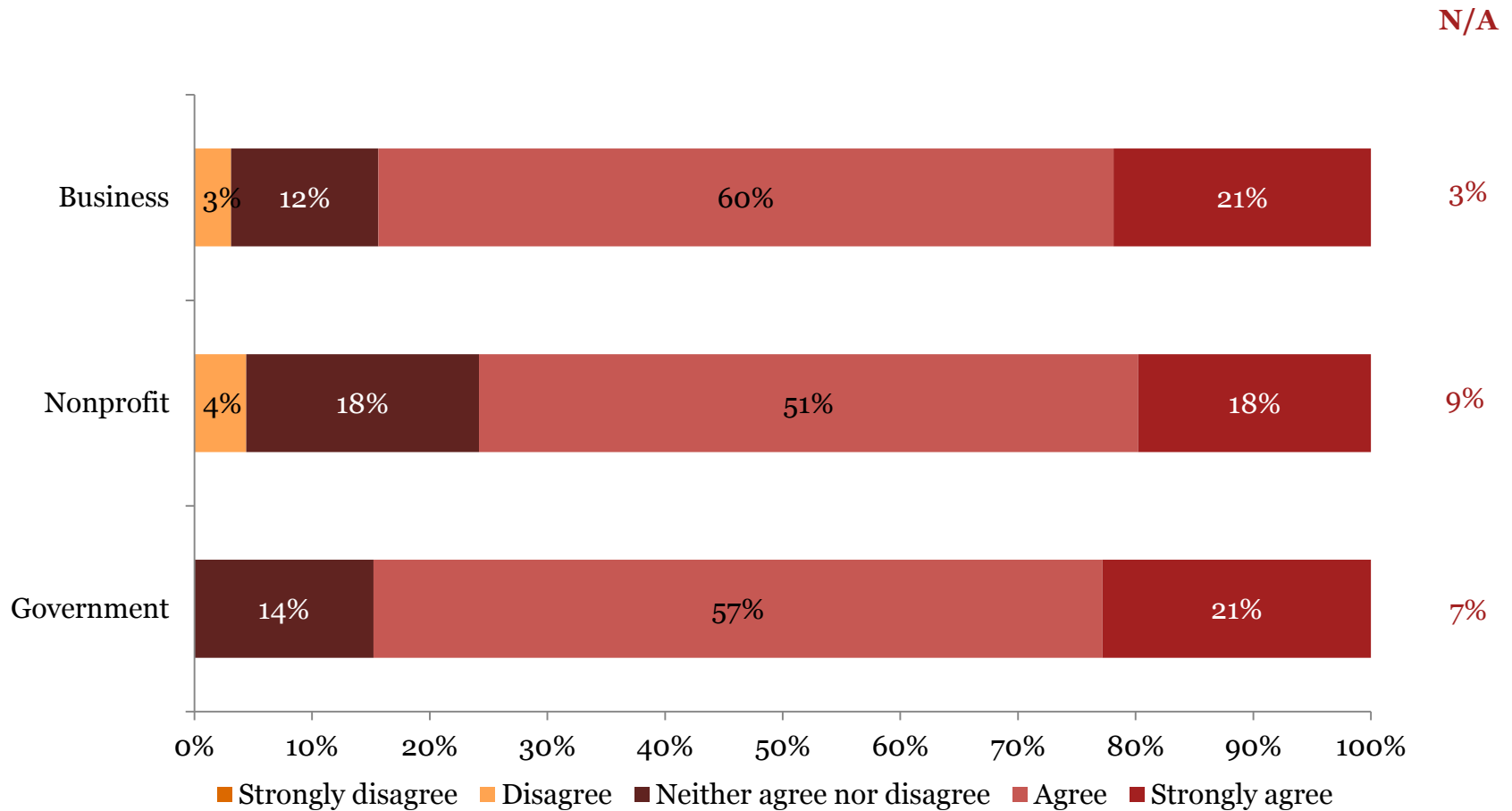
Almost half of internships are between 2 to 6 months



...and the majority of employer partners say the length of the internship is sufficient to be a meaningful experience to the students

Q10b.

Most employers find students academically well-prepared for internships



Base: 58 (Business)

Base: 68 (Nonprofit)

Base: 14 (Government)

CTE Employer Survey

PwC

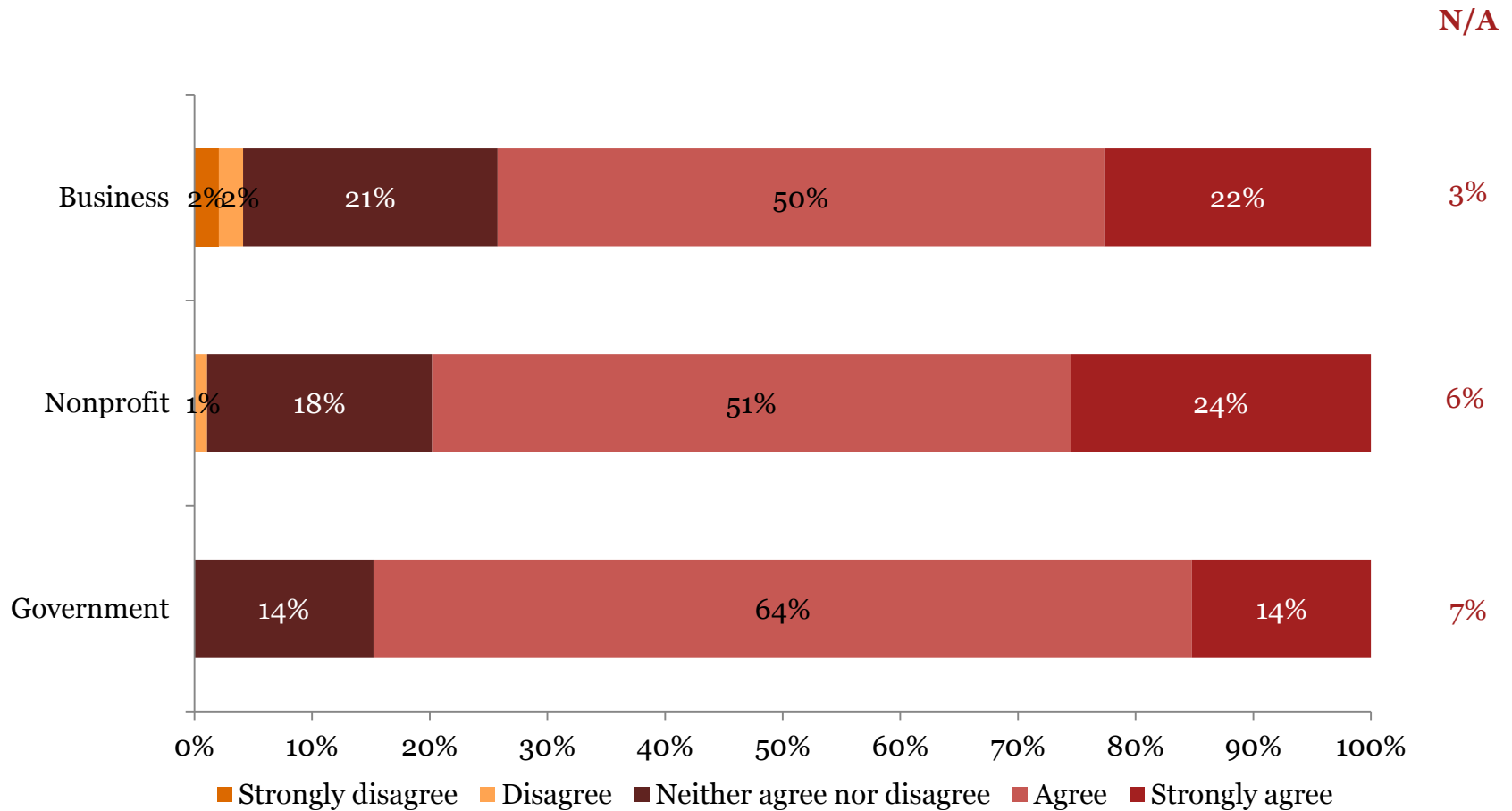
Note: Questions only asked to those who selected 'Internships' as an activity at Q3.

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Q10b.

A quarter of business employers report interns lack the necessary hard skills



Base: 58 (Business)

Base: 68 (Nonprofit)

Base: 14 (Government)

CTE Employer Survey

PwC

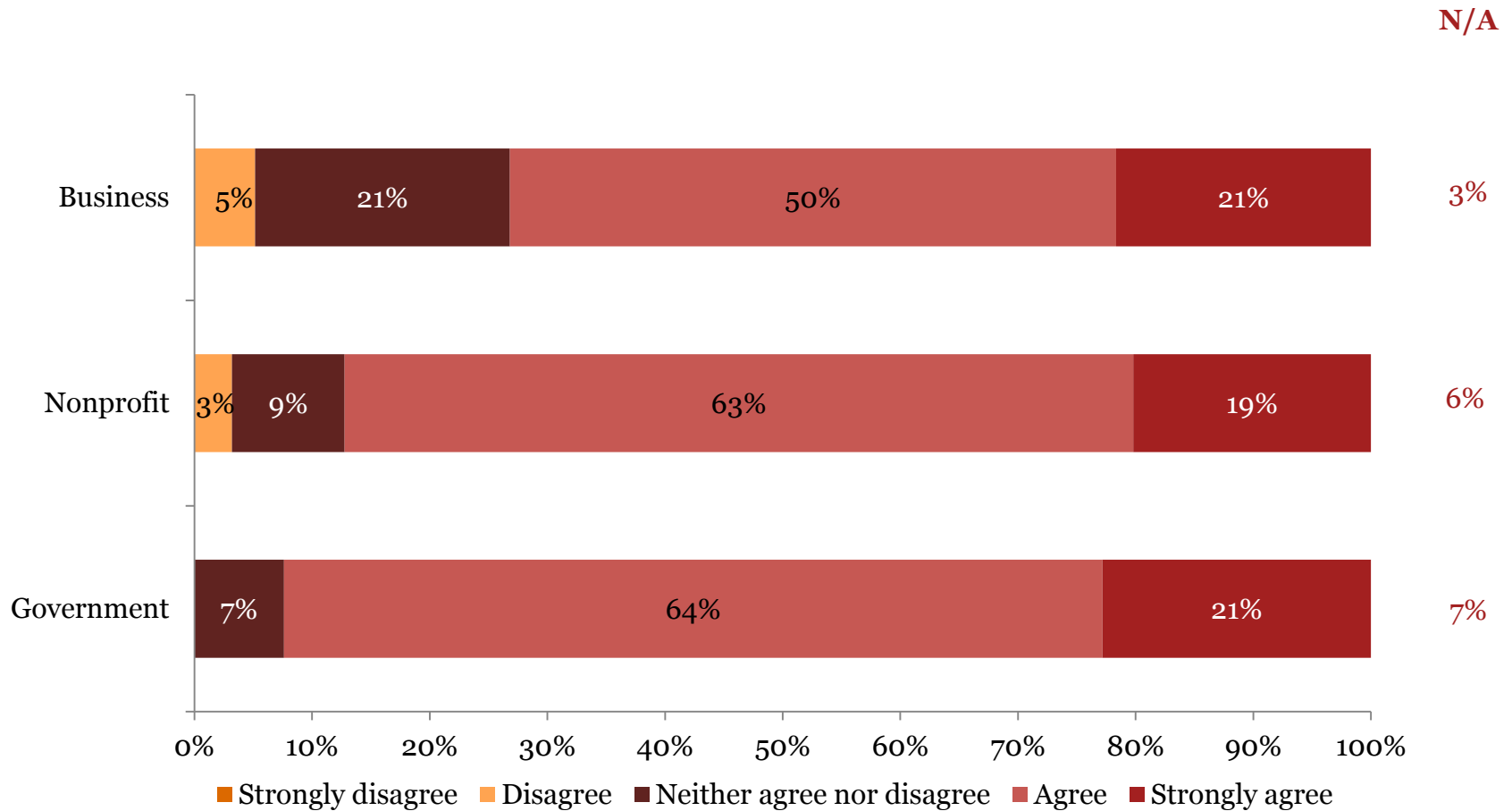
Note: Questions only asked to those who selected 'Internships' as an activity at Q3.

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Q10b.

A quarter of business employers report interns lack the soft skills to be successful in the workplace



Base: 58 (Business)

Base: 68 (Nonprofit)

Base: 14 (Government)

CTE Employer Survey

PwC

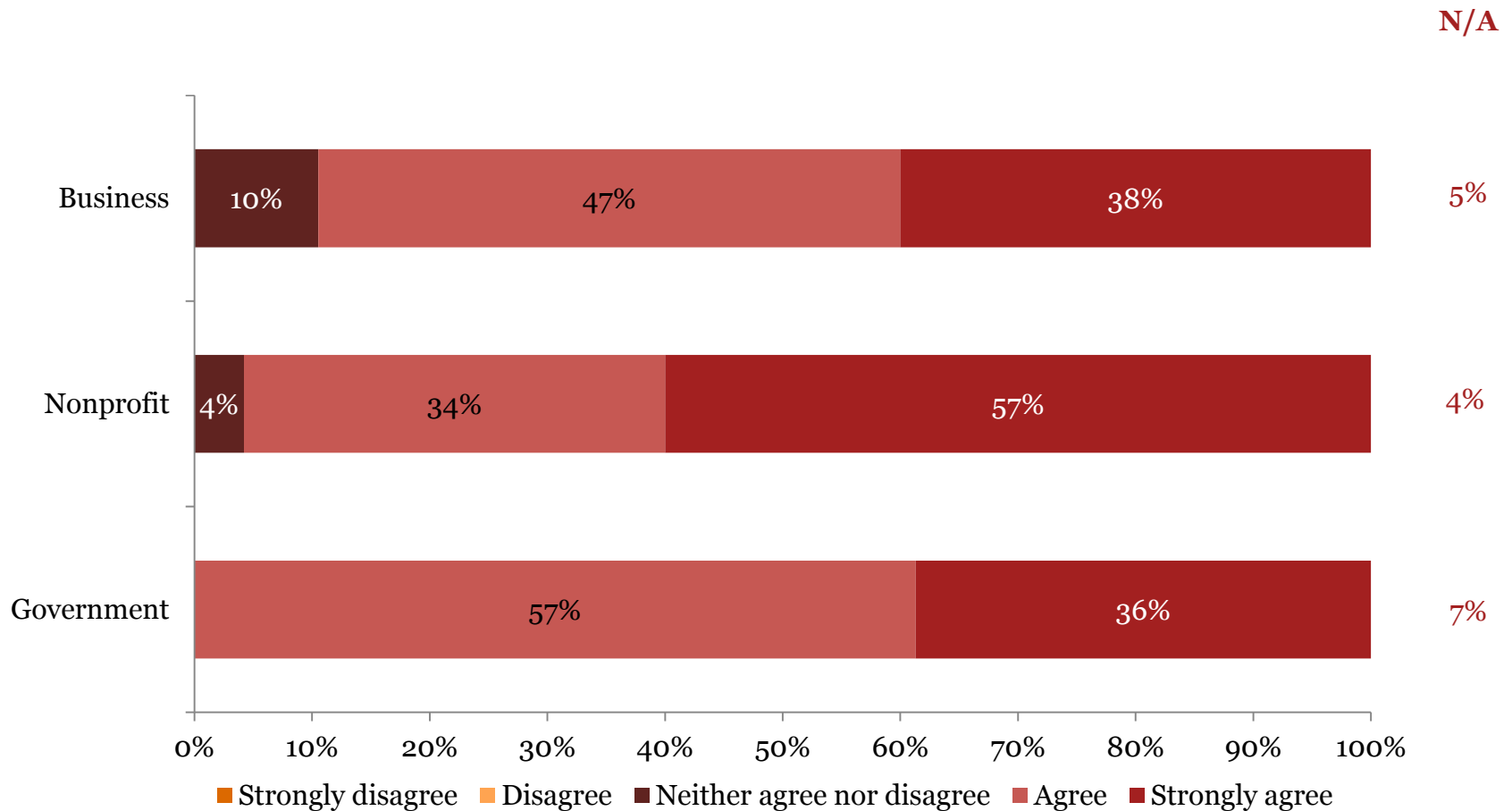
Note: Questions only asked to those who selected 'Internships' as an activity at Q3.

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Q10b.

Employers that currently have interns are generally prepared to take more



Base: 58 (Business)

Base: 68 (Nonprofit)

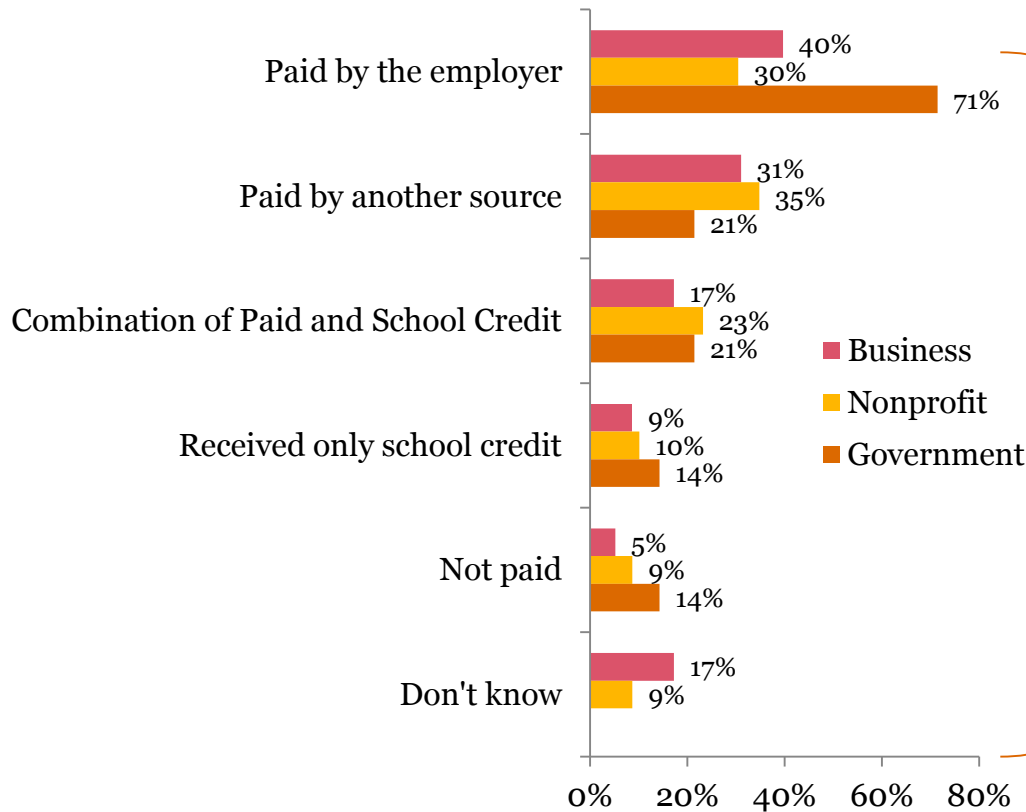
Base: 14 (Government)

CTE Employer Survey
PwC

Note: Questions only asked to those who selected 'Internships' as an activity at Q3.

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Compensation of interns is fragmented



Base: 58 (Business)
 Base: 69 (Nonprofit)
 Base: 14 (Government)
 Note: This is a multi-response question
 CTE Employer Survey
 PwC

Note: Questions only asked to those who selected 'Internships' as an activity at Q3.

Average percentage of interns paid

Business	Nonprofit	Government
85%	86%	90%
Base: 38	Base: 47	Base: 11

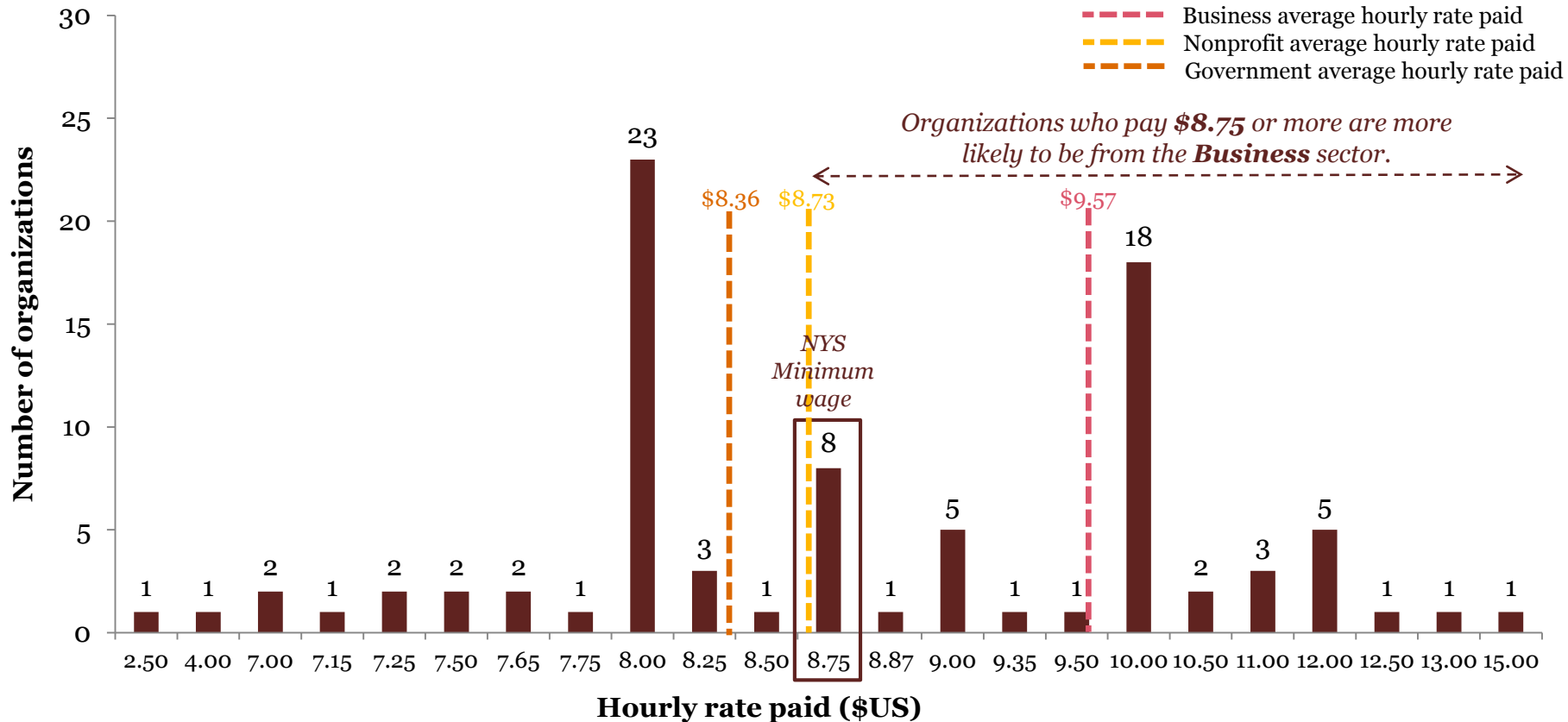
Hourly rate paid

Business	Nonprofit	Government
\$9.57	\$8.73	\$8.36
Base: 33	Base: 43	Base: 10

Note: Questions only asked to those who selected Paid by our organization, Combination of Paid and School Credit or Paid by another source at Q10e

Q10f.

Payment rates of interns are uneven



Base: 86

Note: Questions only asked to those who selected Paid by your organization, Combination of Paid and School Credit or Paid by another source at Q10e.

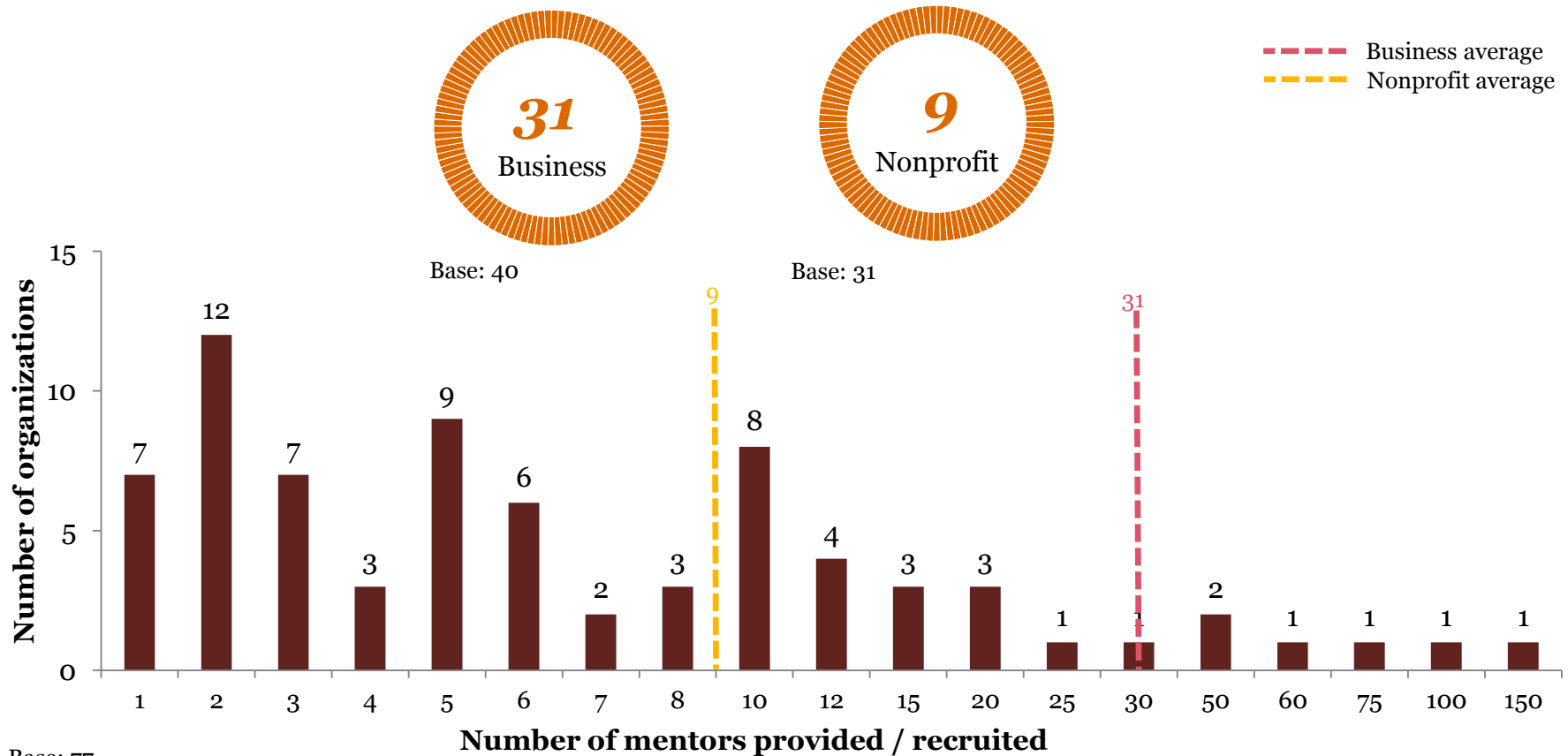
Note: Graph presents the distribution of 'hourly rate paid (\$US)'. This data is only based on respondents who provided response to the hourly rate paid to interns during the 2013-14 academic year.

Mentorships

Q11.

Business employers provide an average of 31 mentors

Average number of mentors provided / recruited



Base: 77

Note: Questions only asked to those who selected 'Mentorships' as an activity at Q3.

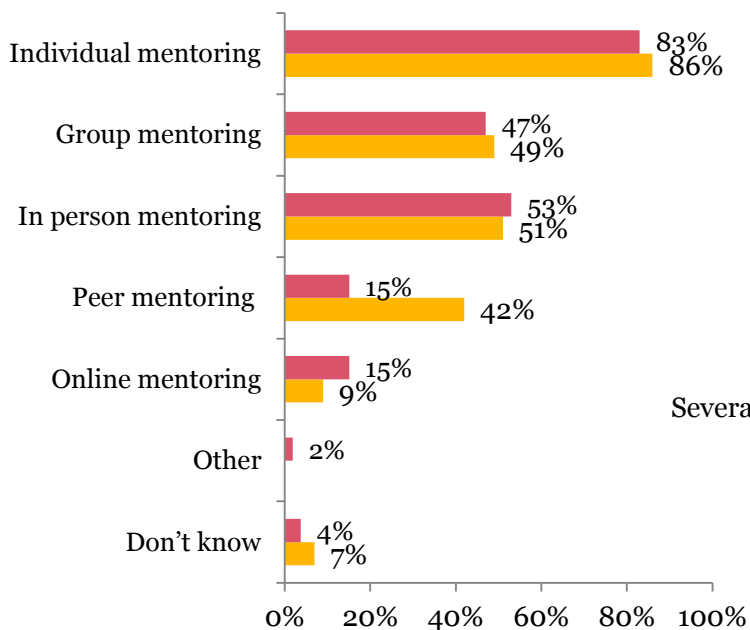
Note: Graph presents the distribution of number of mentors. This data is only based on respondents who provided a response to the number of mentors provided / recruited during the 2013-14 academic year. Two outliers have been removed for presentational purposes.

Q11, Q11b, Q11c, Q11d.

Most mentoring involves individual, in-person, weekly or biweekly sessions

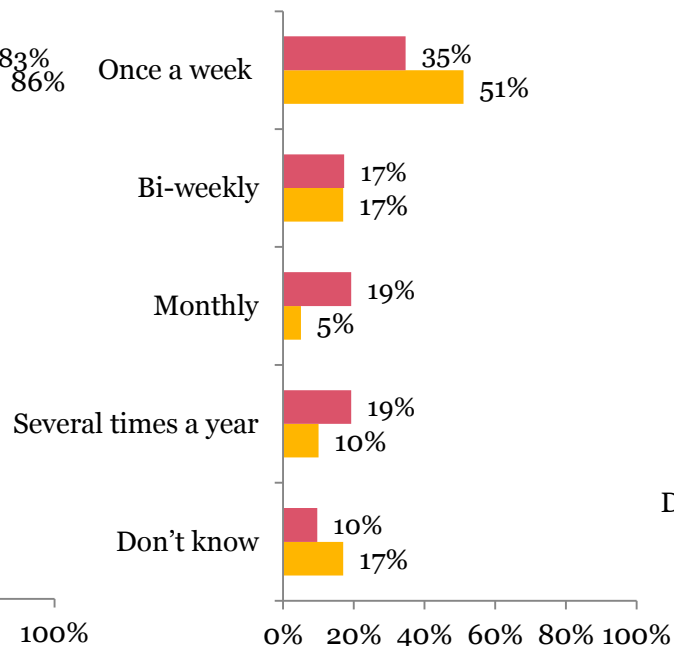
Mentoring type

(Note: Multi-response question)



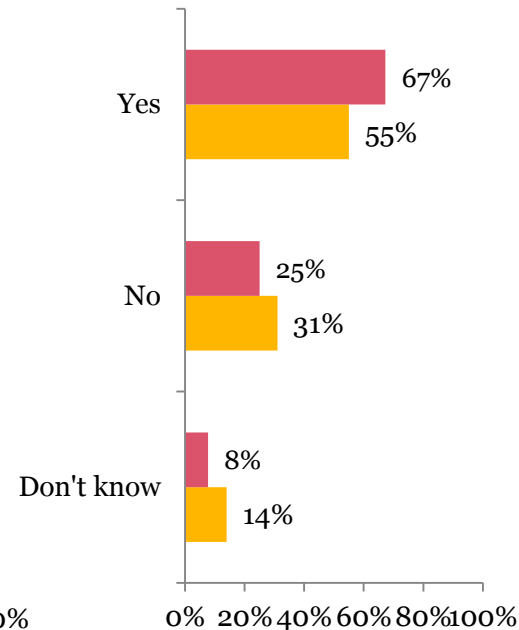
Base: 53 (Business)
Base: 43 (Nonprofit)

Frequency type



Base: 52 (Business)
Base: 41 (Nonprofit)

Promotion of mentorship opportunities



Base: 52 (Business)
Base: 42 (Nonprofit)

Note: Questions only asked to those who selected 'Mentorships' as an activity at Q3.

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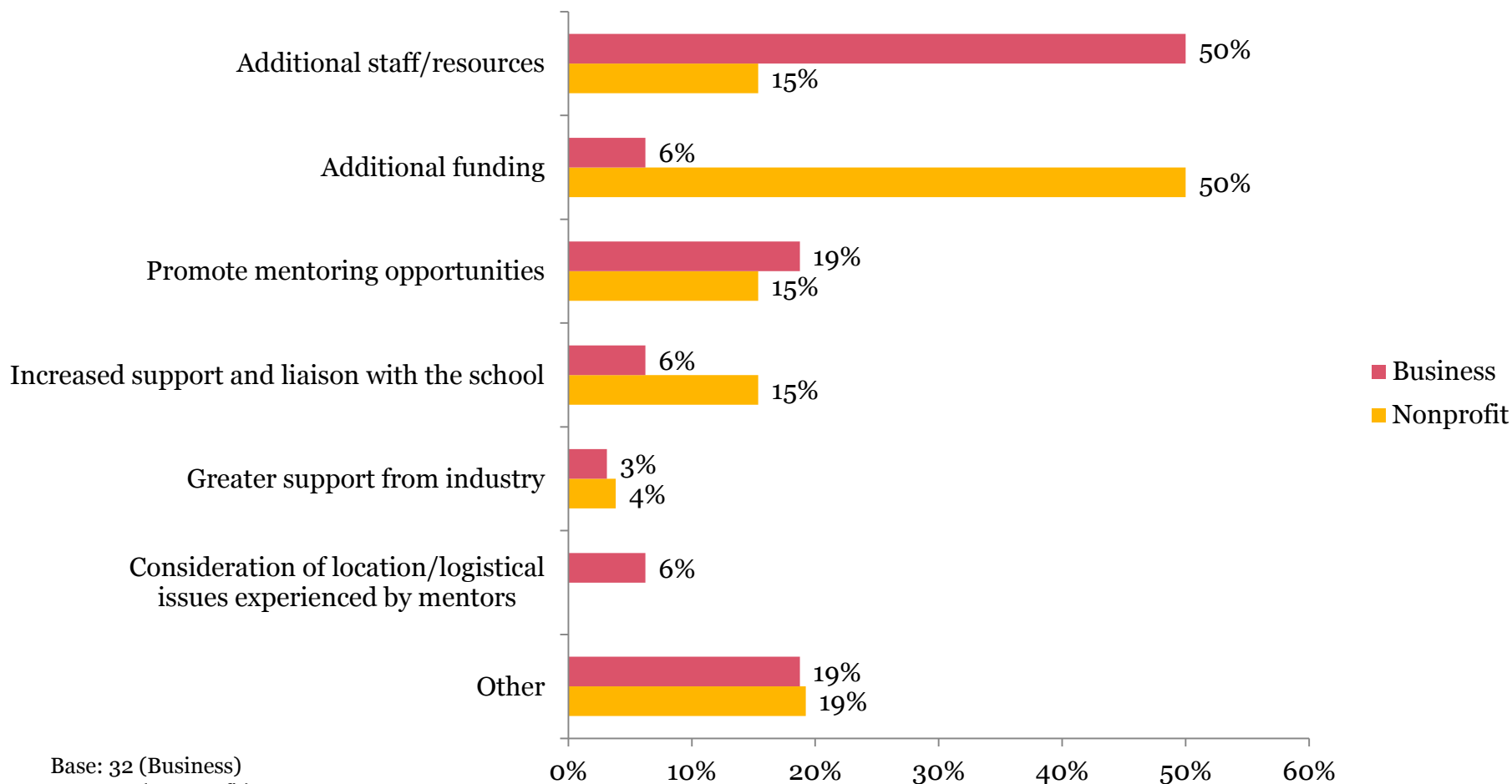
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Q11e.

Businesses could provide more mentors if resources were available to staff mentor programs



Base: 32 (Business)

Base: 26 (Nonprofit)

Note: Multicoded response

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Note: Questions only asked to those who selected 'Mentorships' as an activity at Q3.

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Sample comments on expanding mentorships

The school where we mentor students is far from our office, so we end up spending a substantial amount of resources providing transportation for the students from our offices to their homes in the evenings.

Willingness from employees to lead the volunteer efforts or sign up to mentor

Funds for employees to administer the mentorship

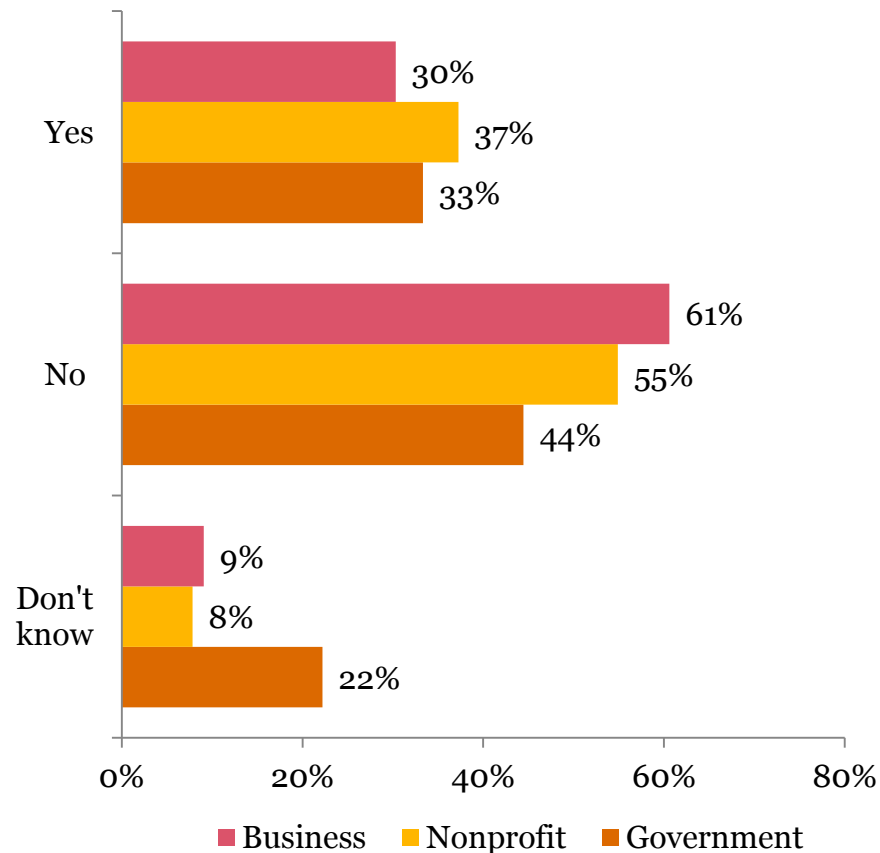
Availability of employee mentors and coordinated schedules

A larger base of employees in the local area and perhaps new/varied opportunities for us to participate as mentors with the schools.

Financial support for mentoring meetings and social events

Hiring

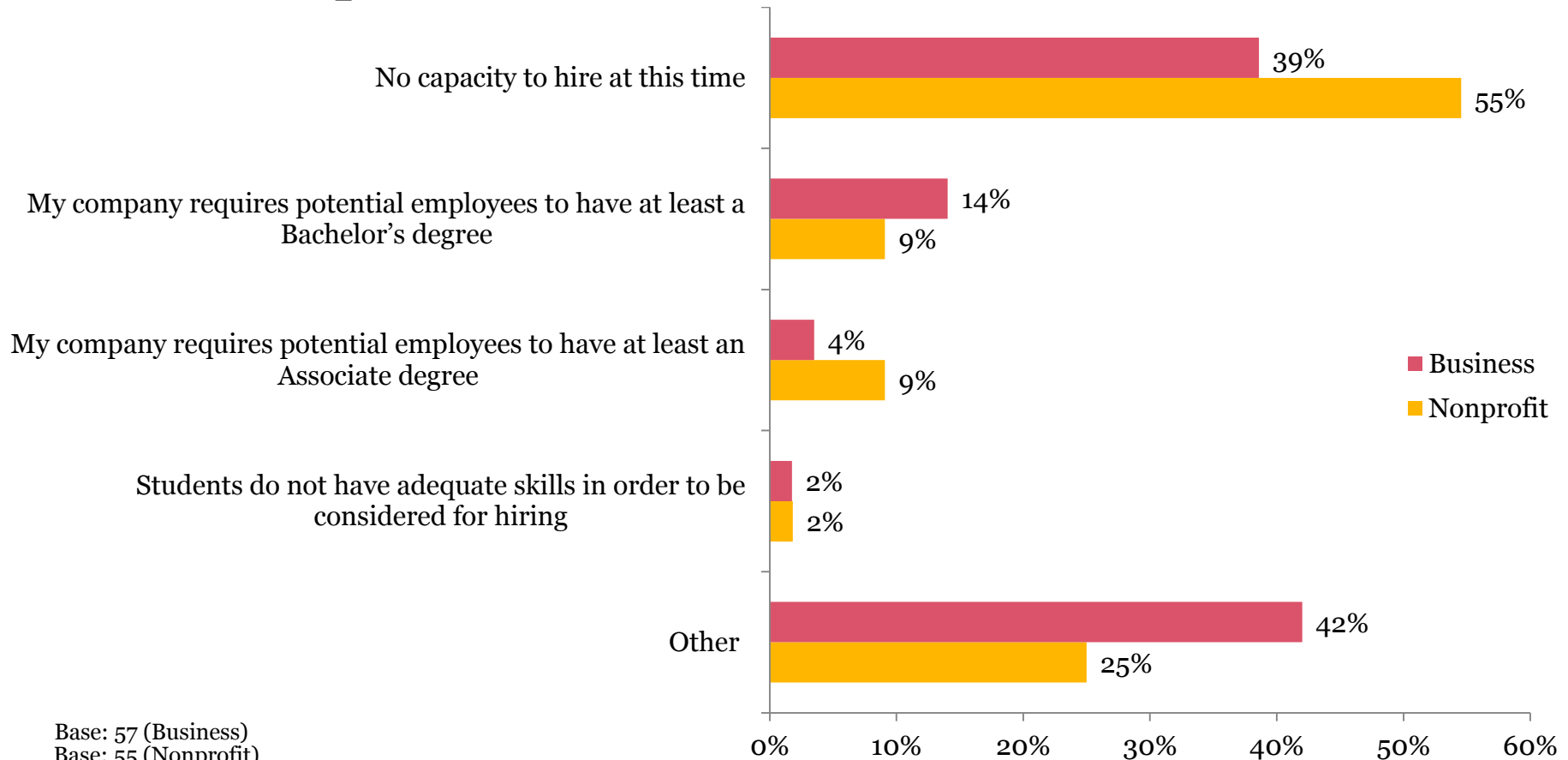
Only a third of employer partners have an internal process in place to recruit students for employment from the CTE programs



Base: 99 (Business)
Base: 102 (Nonprofit)
Base: 18 (Government)
CTE Employer Survey
PwC

Q13d.

When asked “What is the main reason you don’t recruit students from the CTE programs?”, lack of internal capacity to hire and need for more experienced hires were most common responses



Base: 57 (Business)

Base: 55 (Nonprofit)

(Note: Only asked to those who selected 'No' at Q13)

CTE Employer Survey

PwC

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Q13d.

Sample “Other” reasons CTE employers don’t hire students from the CTE programs

Students have not completed high school yet

Limited roles in NYC due to non-headquarters location and types of jobs in NYC.

The work is physically demanding and I would be concerned about safety in hiring a high school age student. I would also be concerned about long term commitment, and would a high school graduate commit to a minimum of 2 years?

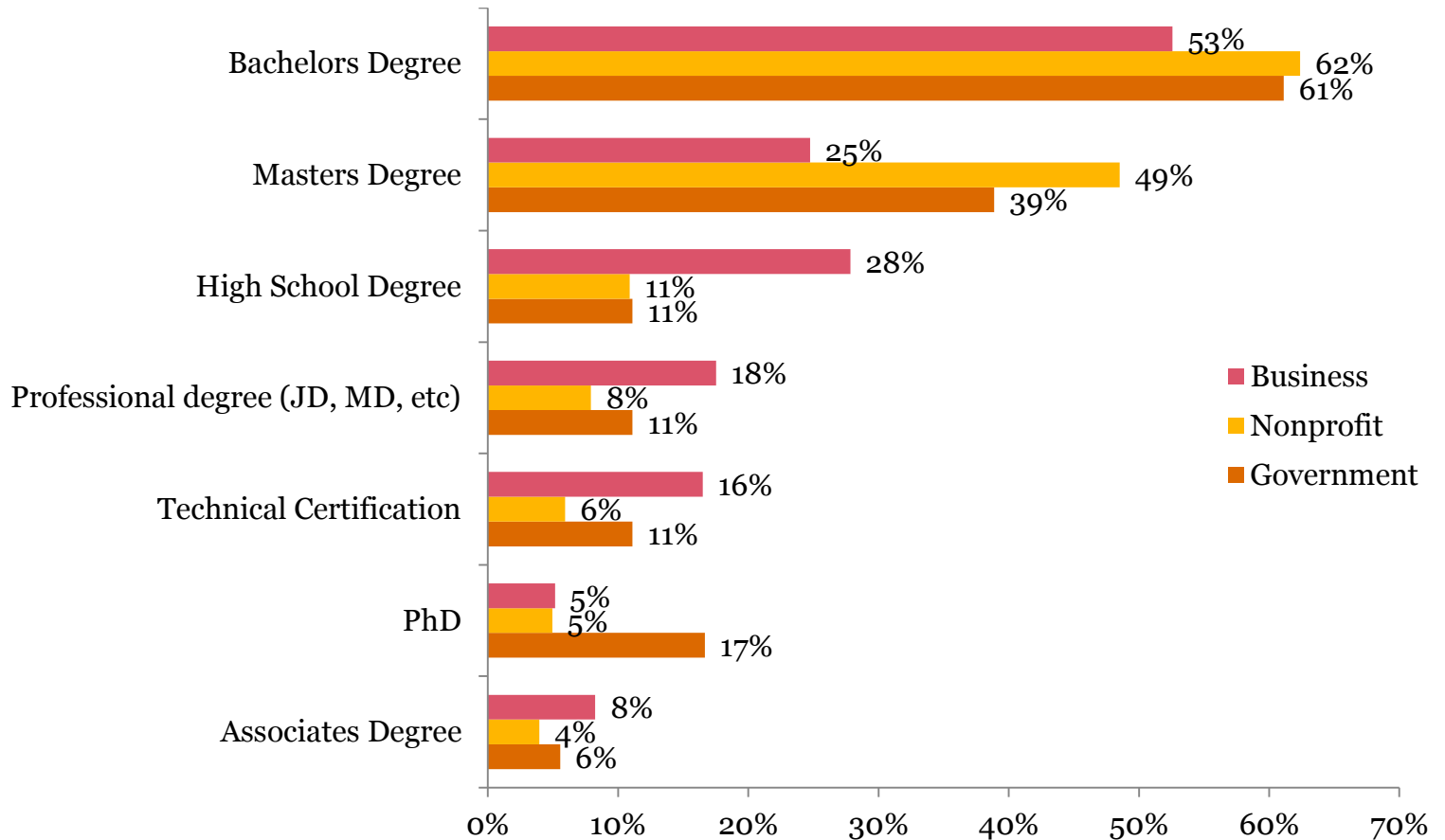
We recruit over 600 interns from colleges with needed educational courses to assign to clients and work. High school internships are limited and focused on giving back to the community and student pursuit of higher education.

In some areas, a BA is required. In others, we hire union employees so students must go through that process independently. For in-house staff, it's just something that hasn't been pushed.

Need qualifications for state exams (degrees). For most positions, a person is required to take an exam. They will need to qualify first (a degree may be required)

Q14.

Most jobs require a Bachelors degree or higher



Base: 97 (Business)
 Base: 101 (Nonprofit)
 Base: 18 (Government)

Note: Multi-response question - respondents could select up to TWO options only

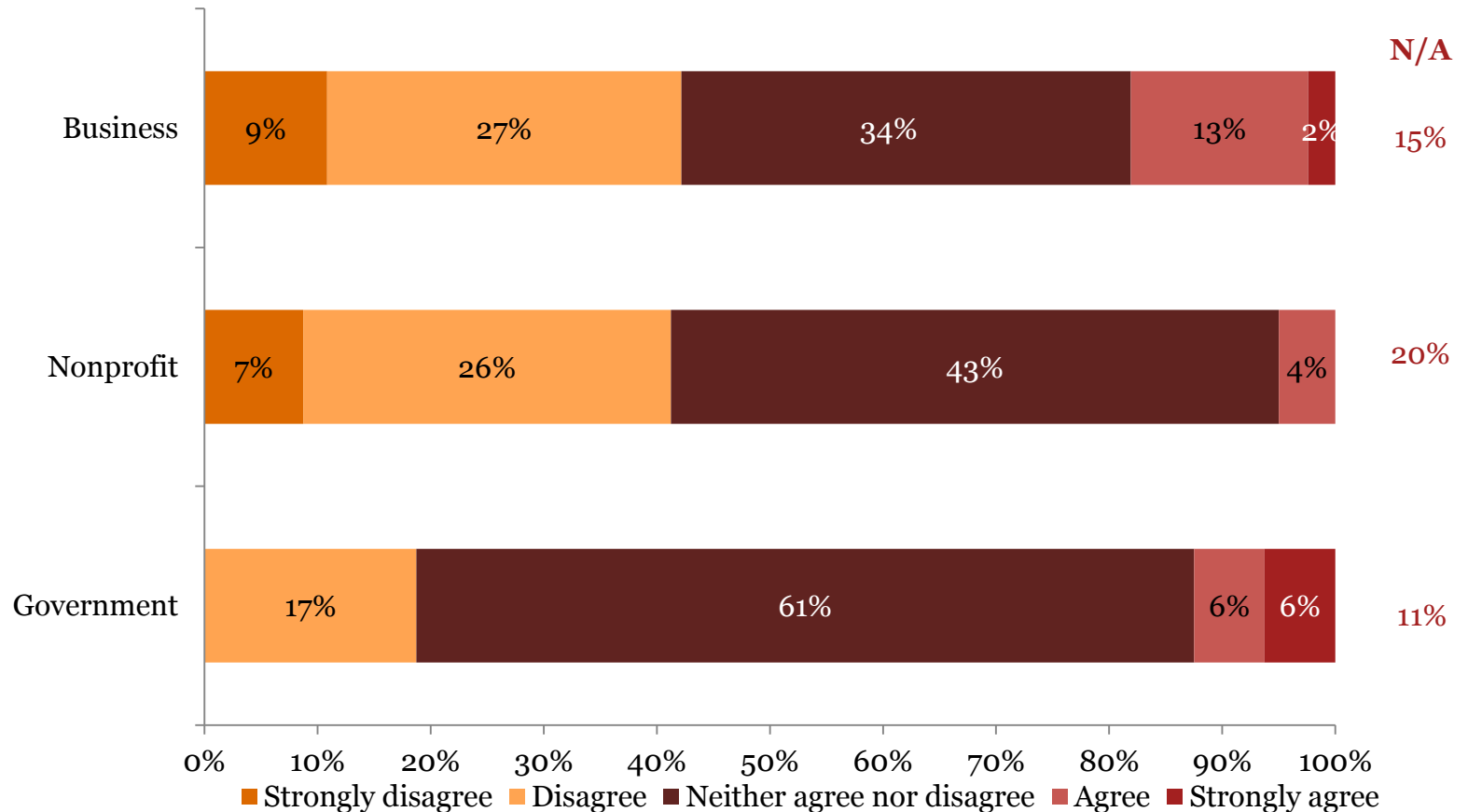
CTE Employer Survey

PwC

Challenges

Q15.

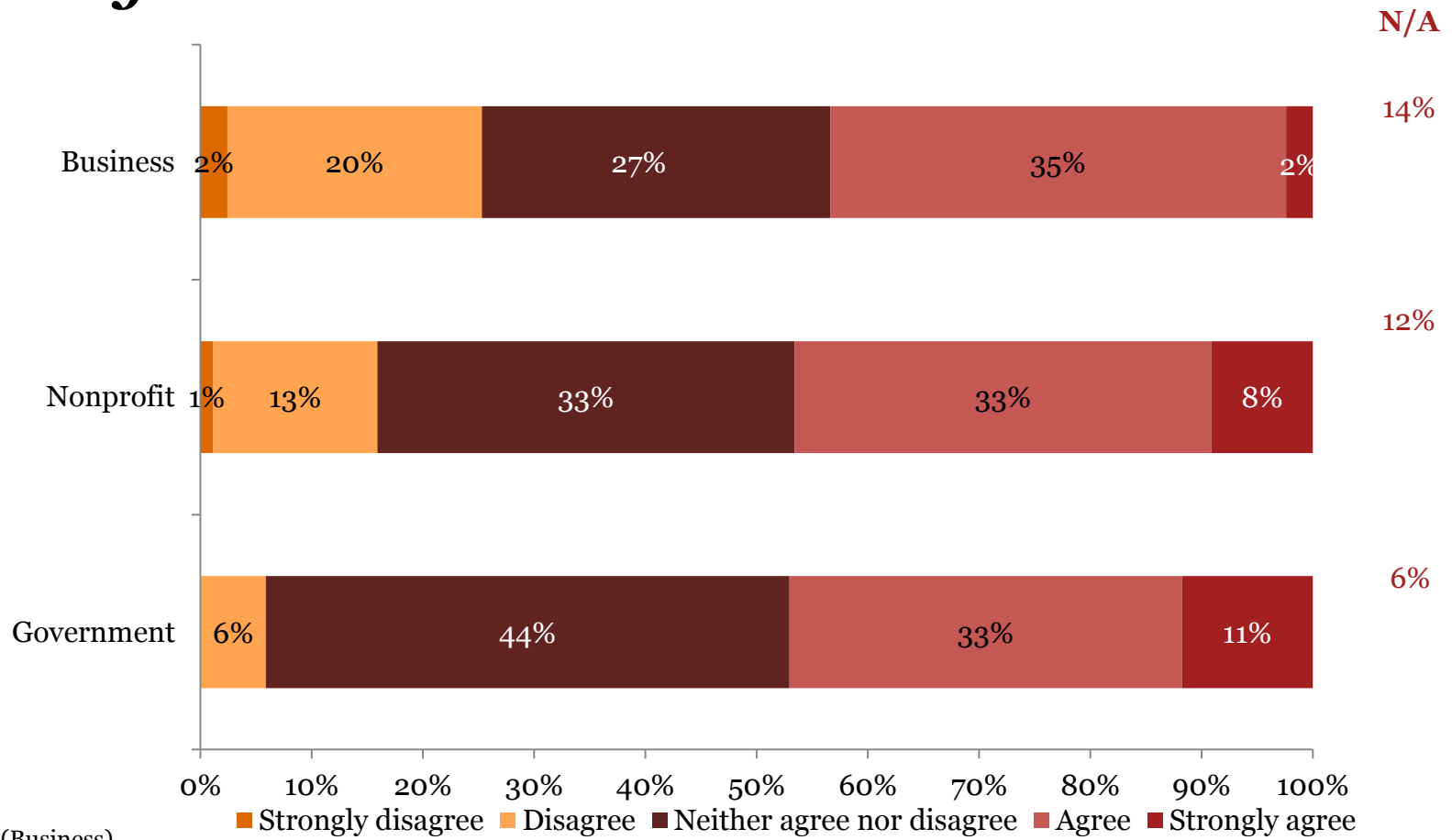
Over a third of employers disagree when asked if CTE schools and programs are adequately funded



Base: 98 (Business)
 Base: 100 (Nonprofit)
 Base: 18 (Government)
 CTE Employer Survey
 PwC

Q15.

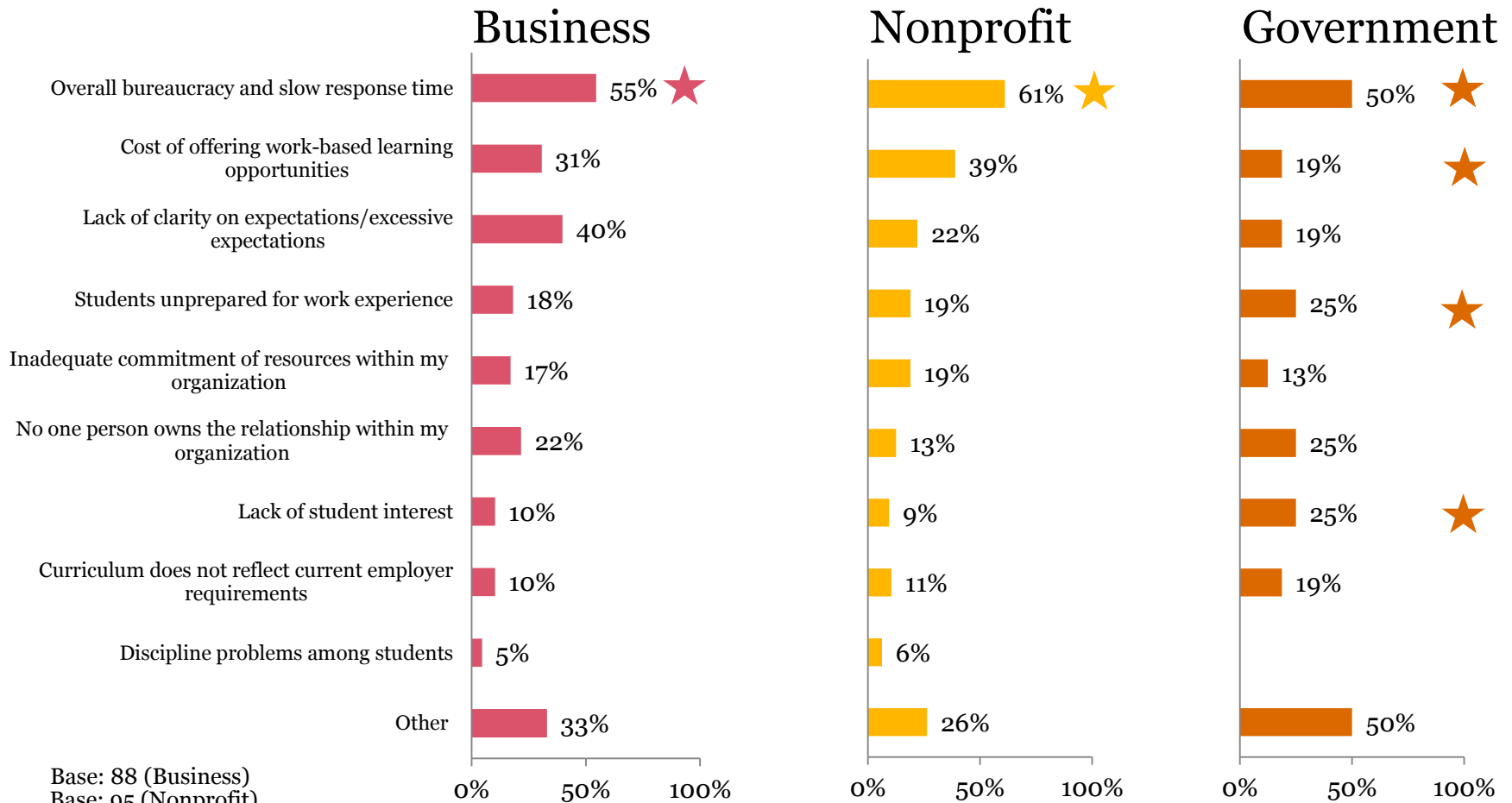
Fewer than half employers surveyed believe that CTE schools and programs are adequately connected to the industry



Base: 97 (Business)
 Base: 100 (Nonprofit)
 Base: 18 (Government)
 CTE Employer Survey
 PwC

Q16.

All employers say that bureaucracy and slow response time are the biggest challenges in CTE work



Base: 88 (Business)
 Base: 95 (Nonprofit)
 Base: 16 (Government)

Note: Respondents were asked to rank their THREE biggest challenges.

CTE Employer Survey

PwC

★ Option most frequently ranked number 1

Q16.

Sample comments on the challenges that employers encounter with CTE partnerships

Computer forensics is a highly skilled discipline, so even at the most basic levels interns would need a very advanced knowledge of computing. We are working toward that with our curriculum but we're not there yet.

Funding to make this a sustainable initiative

No clear understanding of rules of engagement or one point of contact

There has been a lack of good communication with the school with both the employer and the students

Leadership and faculty of school are overwhelmed by other issues.

Lack of follow up to cultivating new private sector revenue streams.

Funding (more should be offered to schools)

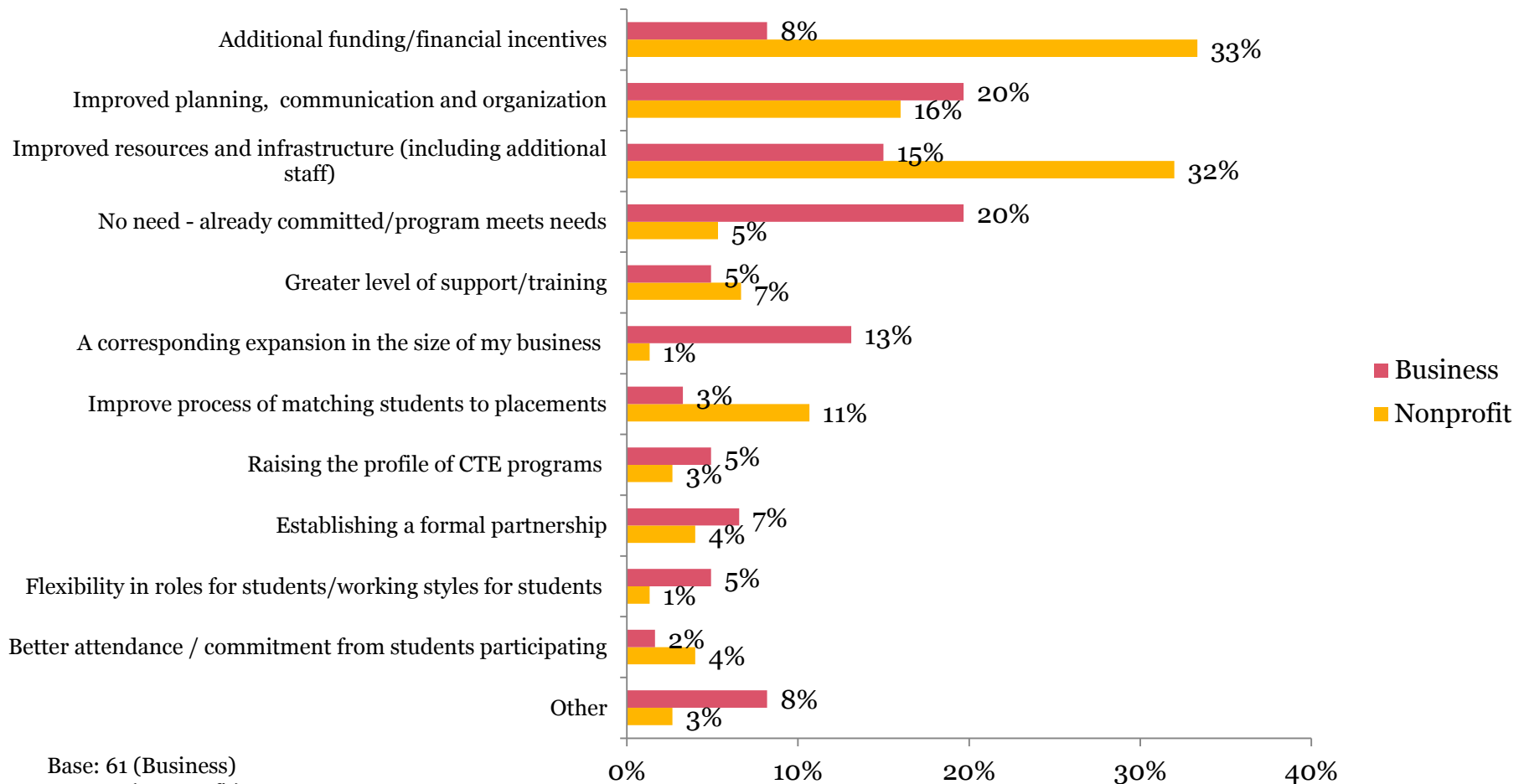
We are a professional services organization and due to the confidentiality of our work for our clients, we are limited to the number of high school internships we can offer.

- 1. Lack of teacher time and support to focus on CTE and financial educational content.***
- 2. Lack of flexibility at school leadership level to adopt new programs.***

Contractual and Legal challenges

Q17.

Expanded employer commitment to CTE would require better planning, communication, organization and more resources



Base: 61 (Business)

Base: 75(Nonprofit)

Note: Multicoded response

CTE Employer Survey

PwC

Q17.

Business sector sample comments on potential expansion of CTE commitments

Networking event or group email so I can learn about other CTE programs.

Commitments are made by individual employees and/or business units. The firm will support their efforts but employees must be willing to make the commitment.

Increased discussion about importance and effectiveness of working with students to prepare them for workplace experience.

We would need students to have a baseline computer forensic knowledge to do basic lab work. Things like imaging hard drives, processing them, preparing acquisition documentation and inventory documentation accurately, all of which are more suited to college level students.

More seamless & efficient onboarding process for mentors.

Good planning and scheduling. Partners need better communication and clear goals.

Establishing clearly defined programs supported by a contract with the NYCDOE.

Structured, in-depth partnerships where industry is involved at both the policy and philanthropic levels.

- 1. Better facilities at the school to carry out a curriculum relevant to our industry*
- 2. Proven track record with curriculum success; i.e. more students who are demonstrably good at the work that is relevant to our industry. We are making progress in this area, but we have a way to go still.*

Better coordination with the NYCDOE. More realistic expectations. Internships are very difficult to fund and organize. There should be other roles that industry partners can play without having to sign up for dozens of internships. Internship opportunities should be managed separately. The emphasis should be on qualifying students for opportunities that are available throughout the city.

Q17.

Nonprofit sector sample comments on potential expansion of CTE commitments

If there was an increased expectation among school leaders and parents that students must make time for these type of opportunities, this will help student participation levels, especially at low-performing and underserved schools. Too often, these opportunities go to the already high-achieving student versus serving the student that really needs the added level of support and access. Working with these students can be challenging and often professionals have limited time and patience in dealing with teenagers that do not yet have the cultural literacy of an office environment.

Release time for teachers at school to work with us to develop joint projects. We'll go to them. Teachers and administrators are really, really hard-working and put in lots of free overtime as it is. They need better on-site support.

Funding to hire interns through DOE. It is hard to put in the time to train interns, let alone high school interns. It's a hard sell.

Quicker response time and placement of students

We would need a better internal strategic plan and commitment from each school as to how to exactly partner going forward.

Clear understanding of engagement options and its effectiveness as well as commitment requirements

More regular meetings between partner organizations, better communication, and a more formal vetting process of students.

We really just need more interaction with the school. It has gotten to the point where we are ready, willing and able to offer more, we only hear from the school when it is time to interview the potential interns.

Funding to pay the students and overhead for their internships

More resources to allow for an effective intermediary to scale up their programs

Q17.

Government sector summary of comments on potential expansion of CTE commitments

Better and more faculty to work specifically with the CTE High School

Personal interest from the Mayor of NYC.

Letting more people know the program exists.

There are many competing programs already in place. The Judicial Circuit needs to develop a more cohesive approach in order to implement a universal educational program throughout the courts of the Judicial Circuit. Templates for programming are necessary as they will make it easier for judges to make the time to participate. We need to increase staffing and program resources in order to support more student visits.

Create pathways between high school and associate degree programs.

The reduced federal budget limits the availability of federal technical staff.

Faster, more competent/ organized response from the DOE for help with the issues we have been encountering in the partnership (CTE teacher/ certification, facilities/ shop construction.) These have really been a burden on our partnership.

Starting a middle school CTE law program as a pipeline to high school.

Appendix – Overview of School Survey Findings

Key findings – School Survey

- There was a 90% response rate to the survey by CTE schools and schools with CTE programs.
- A total of 120,000 New York City high school students (40%) are enrolled in CTE classes or programs.
 - Fifty-one of New York City's 400 high schools, with 26,000 enrolled students, are dedicated to Career and Technical Education.
 - Another 88 traditional high schools offer a total of 300 CTE programs.*
 - Citywide, schools identify 758* employers engaged with CTE, of which 333 are businesses and the rest are nonprofits and government agencies.
 - Over 50 nonprofit intermediary organizations are directly servicing CTE schools & programs, with 20 most frequently highly rated from educators and employers.
 - 18 CTE schools report no current employer or nonprofit service provider engagement.

* Note: Data provided by the NYC DOE.

** Note: 490 employers were reported directly by schools, the balance were reported by NYC DOE and intermediary organizations for a total of 758 employers.

Key findings – School Survey

- 2,004 students earned a CTE-endorsed diploma in the 2013-14 school year.
 - 1,329 graduates of CTE dedicated schools got a CTE-endorsed diploma, compared to 675 graduates of traditional high schools offering CTE programs.
 - Students earn CTE-endorsed diplomas by passing an exam in one of 13 categories established under state law: culinary, automotive, computer repair, electronics technician, network administration, metal working, graphics, carpentry, business, advertising & design, accounting, agricultural mechanics and hospitality management.
- 1,575 students were placed in an internship last year, of which 60% were paid positions.
 - Among CTE dedicated schools, 748 students were placed in an internship and 76% were paid; in schools with CTE program(s), 827 students were placed in an internship and 53% were paid.
 - Students must have strong recommendations and grades in order to be placed in an internship.
- Private sector employers on average do not take more than a few interns from CTE schools and programs each year regardless of the size of company.
 - The 5 schools with the most interns rely on employers such as Park Avenue Armory, Center for Arts Education and NY Presbyterian Hospital.

Key findings – School Survey

- The majority of CTE dedicated schools and CTE programs stated that teachers are well prepared, 71% and 72% respectively.
- Ninety-four percent of CTE dedicated schools value engagement by employers, compared to 87% of respondents from schools with CTE programs.
- Respondents believe the skills CTE students are learning are relevant to today's workplace.
 - Ninety-four percent of respondents from CTE dedicated schools agree that participation in a CTE program contributes to the success of students post-graduation, compared to 90% of respondents from schools with CTE programs.
- Ninety-two percent of CTE dedicated schools have a relationship with a post-secondary institution.
 - The most common types of activities include campus tours, transferable credits and access to college courses.

Key findings – School Survey

- Respondents from CTE dedicated schools and schools with CTE programs were generally in agreement about the overall importance of CTE.
 - Ninety percent of CTE dedicated schools report that CTE is deeply embedded in the culture of their school, compared to 61% at schools with CTE programs.
 - Eighty-six percent of respondents from CTE dedicated schools believe that academic work and technical skills training could be better integrated, compared to 65% of respondents from schools with CTE programs.
- Most CTE schools have an employer advisory board, but few meet regularly.
 - Respondents report better input from new CTE Industry Commissions.
- Most schools do not effectively track employer relationships.
 - Only 47% of CTE dedicated schools and 28% of schools with CTE programs track employer engagement and student work experiences using an electronic database.

Key findings – School Survey

- Most work-based learning coordinators (staff responsible for employer engagement) are teaching a full class load.
 - Schools lack resources to recruit and manage employer relationships and internships for students.
- Nonprofit intermediary groups are filling the gap in some CTE schools and with many programs.
 - Most active intermediaries include Skills USA, National Academy Foundation (NAF), PENCIL, Justice Resource Center and Virtual Enterprise.
 - Schools and employers believe the involvement of a nonprofit intermediary is important.
- Mentoring is the second most valued employer contribution (after internships).
 - Nineteen employers and 25 non-profits carry out mentoring programs in CTE dedicated schools.
 - Forty three employers and 52 non-profits carry out mentoring programs in schools with CTE programs.
- Of the schools involved in a mentoring activity with employers, 80% of mentoring takes place at least monthly. Group mentoring is common.

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