Leading Technical People

Report 2013

GP STRATEGIES™

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Contents

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NOTE: Quotes in these boxes are taken directly from the 2013 survey's write-in responses.

Introduction

BlessingWhite has been a keen observer of effective leadership for over four decades. In this report we examine the dynamics specific to leading technical people - a competency that proves to be increasingly important for almost every organisation in every industry, even those we might think of as less expert-dependent.

Building on previous studies we provide an overview of technical people, the challenges faced by leaders of expert employees and the learning preferences, which inform our design of leadership development initiatives for this specific population. We also look at shifts we have observed around leadership challenges and technology usage.

Who will benefit from this report?

This report is aimed at leaders and managers who operate in a technical environment and who are looking to improve their effectiveness in inspiring higher levels of performance from team members. It will also prove a valuable resource to senior leaders who oversee technical departments and aspire to coaching managers and team leaders to higher levels of effectiveness.

Professionals in learning and development or organisational effectiveness will also benefit from insights into the challenges, required skills and parameters that make for an effective leadership initiative for this specific population.

Definitions used

The following definitions for technical people and leaders were provided:

- A **TECHNICAL PROFESSIONAL** or **PERSON** is defined as a highly-skilled employee in a technical discipline. This includes IT Professionals, Engineers (software, hardware, civil), Research Scientists, Doctors, Financial Experts and Legal Professionals.
- A **LEADER** of technical people can be a Manager (the primary individual to whom the technical people report), or a Project Manager or Team Leader (an individual without an official direct reporting relationship, but whose deliverables depend on the contributions of one or more technical people). (Note: A leader may or may not be a technical professional themselves).
- A **LEARNING LEADER** is a professional who drives the development of an organisation - which may include Human Resources Partners to the business, Performance Improvement Consultants, L&D Managers, Directors or Executives, or functional leaders like Sales Readiness Directors or Leadership Development Specialists.

About BlessingWhite

BlessingWhite, a division of GP Strategies, conducts regular workplace research with reports made available publicly at www.blessingwhite.com/research.

Blessingwhite works with over 300 organisations each year to better understand workplace dynamics and design development initiatives to drive higher performance. The work the organisation conducts provides a unique view into the opportunities and leadership challenges of thousands of leaders worldwide.

BlessingWhite's focus is in the two broad areas of Leadership Development and Employee Engagement - two disciplines that encompass many aspects of soft skills and people development: Career Development, Coaching, Innovation, Performance Management and Team Dynamics.

Executive Summary

Ideas and innovation

In today's knowledge economy, competitive advantage is no longer secured purely through the access to capital or information - but by having employees come up with creative and novel ways of solving clients' problems. To achieve this, organisations are increasingly dependent on the passion, creativity, energy and engagement of the workforce, and in particular on expert employees in fields such as finance, engineering, design and technology.

The retention of such experts is a particular business challenge in industries where expertise is rare and in high demand - Petrochemical Engineers[1], Architectural and Engineering Managers, Lawyers with experience in specific industry practices, etc. The ability of an organisation to attract technical talent in the first place is predicated on a reputation for being a place where technical people can thrive.

Such technical people tend to fit specific criteria such as advanced degrees and specific roles or functions. For the purpose of organisational development though, what unites them (as a specific population) are 6 key workplace needs that must be addressed for them to thrive: Achievement, Autonomy, Professional Identification, Participation in Mission and Goals, Collegial Support and Sharing, and Keeping Current. When these needs are consistently met, technical employees are more satisfied and contribute at higher levels (e.g., are more engaged).

A leadership challenge

While the technical or creative expertise that these individuals bring to the table is of high value to the company, more often than not expert employees stumble when taking on managerial roles or leadership positions such as team lead, project lead or senior project manager. "People management" is not typically their strong suit, and in today's matrix-based structures they often have little formal authority which leaves them feeling disempowered. The first transition to management is a difficult step for any employee but, in a technical setting, serious interpersonal challenges arise as the result of the nature of technical people both as followers and as leaders.

Despite all of this, organisations have no choice but to increase their reliance on leaders of technical people. The pitfalls that leaders of technical people face are many, but the top ones we identified in our study include:

- Micromanagement
- A failure to embrace the manager or leader roles
- A counter-productive "project management" approach
- The development "tug-of-war"

[1] Petroleum Engineers are the second-highest-paid employees outside of the medical profession as of March 2013, after CEOs — see http://www.usnews.com/news/articles/2013/03/29/the-10-highest-paid-jobs-in-america

The consequences of poor leadership in technical teams results in:

- Disengagement, turnover and loss of talent
- Lower contribution/productivity
- Slower innovation in meeting client needs
- Slower adoption of new technology to move the organisation forward
- Greater resistance to change

With most studies indicating that "replacing valuable staff can cost from 30 to 250 percent of annual compensation"[1] the turnover issue alone is an expensive proposition. Calculating the missed opportunities of slower innovation and technology adoption may be harder, but the rapid demise of Blackberry and Nokia are painful reminders of how quickly an industry leader can fall behind.

The issues that arise in technical teams can be perplexing to senior leaders who oversee such departments, since technical teams can be more insular and the challenges less familiar to executives who are not from technical backgrounds. These dynamics may be unfamiliar to them, making it hard for them to coach the technical leaders who report to them.

The role of leadership development

Leadership training and development needs to evolve to ensure that these technical experts avoid such pitfalls, thrive in their new role and provide maximum value - to their teams, to their organisation and to their customers. Sadly, development initiatives still tend to be generic even though this audience has distinctive needs - both as followers and as leaders.

While technical leaders face specific challenges, these appear to be misread by the learning and development teams. As a result many current learning efforts address the wrong skills or competences, and use less-effective delivery methods not aligned to these learners' preferences. Technical leaders do not buy-in to this type of general leadership training. Online self-paced walk-throughs of performance management processes would be a good example, or generic presentation-skills training.

By better understanding the most pressing challenges of technical leaders, the characteristics of technical people and the learning preferences of this specific audience, HR learning leaders can tailor leadership development strategies that provide much greater returns by addressing the specific pitfalls faced by technical leaders.

[1] See http://www.cio.com/article/456423/Employees_Leaving_Here_s_Why_and_What_You_Can_Do_About_It. and http://www.nytimes.com/external/idg/2008/10/24/24idg-Employees-leavi.html

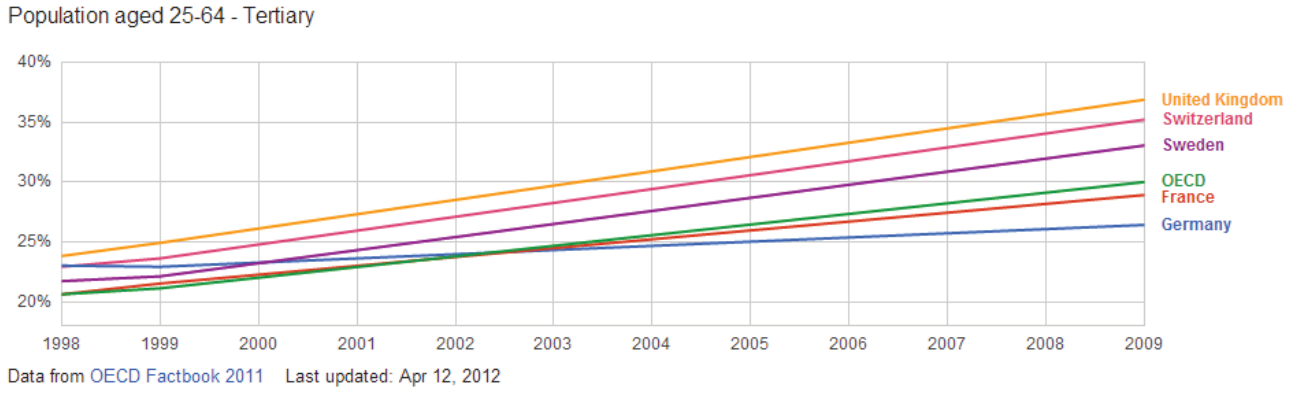
To be successful, we have found that leaders of technical people need to:

- Be leaders of people, not managers of projects
- Understand what makes technical people tick (even if they are a technical person themselves)
- Be just enough of an expert to lead, not do
- Develop the skills to build trust by engaging in purposeful dialogue with team members
- Increase their influence outside of their team or department

> *"A good manager is calm and assertive at the same time. Able to show confidence and strength, but in a way that does not alienate members of the group. It is a fine line, and the best managers walk it the best."*

Leading Technical People

A rise in education



Increased access to education has been a steady trend in all western economies since the beginning of the 20th century. The workforce is becoming increasingly well-educated and specialised. More and more employees are vested in a specific field or domain of expertise, with 31% of the US workforce achieving university-level education[1]. "Tertiary education enrollment rate" in the EU is currently at an all-time high of 63%, with 37% of the current population aged 25 to 64 having achieved Tertiary level education according to data from the OECD.

Today, despite the rising individual cost of education, people around the world are still willing to commit to many years of post-compulsory education. The reason why employees (and potential employees) aspire to higher levels of education? It provides greater earning potential[2] and higher job security, but also allows individuals to pursue work that is more meaningful to them[3].

Among the highest educated employees - and the most fought-over professionals - are technical experts. These include engineers (software, hardware), financial experts, lawyers and creative experts in media and advertising.

Shorter business cycles

Organisations are rewarding higher levels of education and competing to attract those with advanced qualifications.

This is because, in order to achieve and sustain competitive advantage, organisations need to innovate, deploy new technology or approaches and rapidly meet shifting market demands - all of which require specific expertise. In interviews with leaders, this issue of accelerated speed-to-market, of pressure to constantly improve productivity (to do more with less), and the increasingly short life-cycles of products and technologies are drivers of both:

a) The reliance of organisations on technical experts, and

b) The pressure on technical experts to remain current with skills and knowledge in a specific field

[1] US Census Data

[2] See http://www.census.gov/hhes/socdemo/education/data/cps/historical/fig10.jpg

[3] While this trend currently holds true, the premise that higher education is a guarantee of full employment and higher earnings is increasingly being challenged: statistically the value of higher education actually continues to erode — for the UK see the Office for National Statistics' video at http://www.ons.gov.uk/ons/rel/lmac/graduates-in-the-labour-market/2012/video-summary.html to understand how recent graduates entering the workforce are still facing serious challenges finding high-skilled jobs.

Technical experts = specific needs

Technical employees may have some explicit things in common, such as advanced degrees, specific job titles or specific departments. But from a leadership perspective, what unites them is a set of workplace needs which set them apart from non-technical employees (detailed below). These needs are commonly found in non-technical populations as well, but our research indicates that technical employees express these needs more acutely and are more likely to rate highly on 5 or 6 of the list.

Needs of technical people

Technical experts are united in a set of 6 explicit needs that they seek to fulfill at work. The descriptions below reflect BlessingWhite's foundation study[1] and our experience working with tens of thousands of technical people and their leaders.

Autonomy: Technical people crave self-management and independence. They are motivated by the very nature of their work, and prefer a high level of discretion and control where work conditions, pace, and content are concerned. Their need for autonomy is often accompanied by a desire to shape work-related goals and determine the best approaches for achieving them.

Achievement: Technical people are natural problem-solvers. They like challenge and are driven to accomplish goals that require considerable skill or effort. They also want their work to make a difference. Putting their skills and knowledge to the test, in a way that contributes to significant organisational goals, stimulates their commitment and enthusiasm.

Keeping Current: Technical people want to be at the leading edge of their fields. Obsolescence is unacceptable to them (and is, in fact, a danger to their career). They want to know the latest, have the inside scoop, and be the first to try new ideas, techniques or gadgetry. They demand continuous learning and crave variety and challenge in their work. If their skills are underused or tasks feel too routine, these talented employees can disengage.

Professional Identification: Technical people tend to identify with their fields of interest or their profession first and their organisation second. As a result, conflicts can arise when their professional goals and affiliation needs don't align with the objectives or priorities required by their leader or the larger organisation.

Participation in Mission and Goals: Technical people can be reluctant to commit to mandated goals unless they understand how they and the organisation will benefit from their efforts. They want involvement in setting goals and expectations to ensure that their knowledge and talents are maximised. Because they have high achievement needs, unexpected changes in direction or obstacles in reaching those goals can fluster or demotivate them.

Collegial Support and Sharing: Competitive spirit is strong (yet often covert) among technical people, who are generally confident, ambitious people. Yet because they identify so closely with each other and share a desire for personal development, they value idea-sharing and networking. They also welcome learning from experts outside their field of expertise. Not surprisingly, technical people prefer that their leaders establish supportive, collegial (not directive) relationships with them.

[1] See www.blessingwhite.com/research

A shift in leadership needs

This progressive specialisation of the workforce means that the leadership needs of employees are also shifting. Old school command-and-control managers are finding it increasingly difficult to keep smart employees committed and engaged.

Leadership training on the whole has failed to keep up with the demands of our modern workforce. This is true in general and arguably no different when it comes to technical people. But the growing role of technical experts in organisations means that poor leadership of technical populations is having a greater detrimental impact on performance.

> *"I like to work with other people in the very early stages of a project, but once the direction of the project has been determined, I prefer to work alone unless I absolutely need the input of another person."*

> *"I have put a lot of time and energy into educating myself and I stay up-to-date. I wish my manager would give me more credit for my knowledge and skills."*

> *"Technicians and engineers aren't made from a cookie-cutter mold. My personality helps shape the workflow throughout everything I do at work. Tailor-making a work environment that suits its employees would lead to increased productivity and longer tenures."*

The leadership pitfalls explained

Micromanagement:
Despite complaining of having managers who are too involved in directing their work, many technical people engage in this very behaviour when put in a management role. This arises because technical people remain the "expert" and often assume their promotion was based on being more knowledgeable or making better decisions than others on the team.

Micromanagers also turn out to be blind to the individual skills and expertise of team members because they are so focused on the "right answer" that they miss the opportunity to find out about their team's problem-solving abilities.

A failure to embrace the role of leader:
Technical people have invested years in becoming experts in a particular field. Taking on a leader's role or managing others is outside of that comfort zone, and these managers will find many excuses for sticking with what they are comfortable doing (the application of technical skills) at the expense of developing leadership skills, coaching others or providing direction to the team. Besides, team members should know their jobs and what to do anyway, or so the thinking goes.

A "project management" approach:
Many newly promoted managers apply the tools they are familiar with. For technical people, this is often a set of project management tools. This approach results in the leader becoming the primary bottleneck for the department or function as all activities need to roll up to and be approved by him or her. Projects become overloaded with reporting burdens and the new leader is rapidly overwhelmed by the level of detail they are attempting to manage.

The development "tug-of-war":
Technical people crave development opportunities and the chance to work on cutting-edge projects. Leaders of technical teams are faced with constant dilemmas related to work assignments: some are interesting development opportunities and others are dull run-of-the-mill activities. How will a new leader balance these? Will they keep all the interesting development opportunities for themselves? Their teams will judge them on how they appear to favour some over others and their rationale for assigning activities.

The business impact of poor leadership

Most companies will find this dual challenge (developing leaders on the one hand and the challenging needs of technical experts on the other) to be a drag on their productivity. The business challenge is acute because it has a direct impact on several components of competitive advantage, namely:

- Retention and engagement of key technical talent
- Talent development and acquisition of new technical skills

[Both the above impact the following three points]

- Innovation (both transformational "Big I" and iterative "Little i" innovation)
- Adoption of new technology in business processes and product design
- Lower development speed/longer time to market

Leadership Challenges

When asked about their top leadership challenges, technical leaders rank them in the following order:

1. Delivering on projects with fewer resources: Managers are under pressure to deliver results with more streamlined teams. Organisations no longer have armies of scientists, engineers or experts working on big projects: teams are lean, virtual and "matrixed," and deadlines are aggressive. This was also the top item in our 2006 study, although it's worth noting the sense of urgency has dropped somewhat since then (from 86% in 2006 to 72% in the 2013 study of leaders rating this as "very high" or "high" priority - fewer resources may simply be seen as the "new normal").
2. Recruiting the technical people with the talent/skills I need: Technical expertise in all disciplines is evolving at a very fast pace, which makes finding people with specific and current expertise an ongoing challenge for managers.
3. Balancing my team's coaching needs with my own project responsibilities: The majority of leaders in our study have their own deliverables as well as managerial/leadership responsibilities. Caught between the long-term aspiration of coaching others vs. the immediate obligation of hitting key deliverables, technical leaders feel challenged.
4. Developing the skills of the technical people I lead: Technical leaders have their own domain of expertise, but the teams reporting to them typically represent experts in several fields or sub-domains. Understanding development needs, finding appropriate development opportunities, and building development time into a team's schedule are all challenges reported by leaders.
5. Encouraging innovation that meets customer and market needs: While those reporting to the leaders do not list this as a challenge (naturally), leaders themselves feel the pressure to get the teams focused on areas that will produce the biggest return for the organisation. This may mean disappointing some team members as "pet projects" are shut down.
6. Retaining key technical people: Leadership challenges aside, managers are keenly aware that their success depends on retaining and developing those around them - yet their teams score them as mediocre developers of talent at best and wish they would be better at coaching, giving feedback and building trust within the team.

Conversely, the general leadership challenges that appear to be less concerning to these leaders are:

- Managing a culturally diverse team. Technical teams are more focused on the technical issues and are less preoccupied with the cultural background of the team - as long as people provide competence and technical expertise. It is worth noting that while this item is still ranked low on the list of most pressing leadership challenges, its importance has grown significantly since 2006 - see table on the next page.
- Motivating my team to get the quality of work done that is needed. Passionate technical professionals have an intrinsic desire to do high-quality work when it comes to their field of expertise. Often the challenge is getting them to accept that quality may need to be compromised at the expense of time or budget.

Table 1: "When you consider the following leadership challenges, how difficult are these in your daily work?"

	Leaders Rank	L&D Rank
Delivering on projects with fewer resources	1	4
Recruiting the technical people with the talent/skills I need	2	8 =
Balancing my team's coaching needs with my own project responsibilities	3	8 =
Developing the skills of the technical people I lead	4	11
Encouraging innovation that meets customer and market needs	5	5
Retaining key technical people	6 =	9
Leading my team through organisational changes	6 =	3
Keeping up-to-date on industry advances	8	7
Working with external resources (contractors, suppliers, consultants)	9 =	12 =
Encouraging engagement within my team, especially during times of change, uncertainty, and ambiguity	9 =	2
Leading a team in a matrix environment	11	8 =
Leading a virtual team	12	10
Developing myself personally and professionally	13 =	1
Dealing with disruptions to work caused by new technology or social media	13 =	13
Motivating my team to get the quantity of work done that is needed	15	6 =
Motivating my team to get the quality of work done that is needed	16	6 =
Managing a culturally diverse team	17	12 =

NOTE: The equal symbol (=) indicates a tie.

Learning and development is working on poor assumptions

If we look at the rankings in the preceeding table, we realise that learning and development professionals are sometimes out of touch with many of the challenges faced by leaders of technical teams.
When the training departments in companies do design training specifically for these leaders (which in itself is rare), they work off the wrong assumptions: of the top 6 leadership challenges described earlier, only two are identified by the L&D professionals.

An evolving picture of leadership challenges

The challenges faced by technical leaders are evolving along with organisational structures and ways of working. For instance, in 2006 19% of technical leaders reported "Working with external resources (contractors, suppliers, consultants)" as being a high priority. Today 52% of technical leaders report this as a high-priority challenge. Virtual leadership and managing culturally diverse teams have also become more prominent than they were previously.

Consequently, the development needs of technical leaders have evolved and pre-recession training solutions are most likely out of touch with today's leadership priorities.

Table 2: Shifts in leadership priorities — 2006 vs. 2013 ("When you consider the following leadership challenges, how difficult are these in your daily work?")

	2013 Rating	2006 Rating	Gap
Delivering on projects with fewer resources	72%	86%	-14%
Working with external resources (contractors, suppliers, consultants)	52%	19%	33%
Leading a virtual team	48%	37%	11%
Developing myself personally and professionally	47%	52%	-5%
Managing a culturally diverse team	32%	19%	13%

"With our current economy, I am forced to perform my duties with fewer and fewer employees. It is hard to keep up with foreign competitors when they have a lot more at stake and much more motivation. Available resources diminish while customer needs increase."

Leadership Effectiveness

We asked leaders of technical people which leadership skills were:

a) Important to being successful, and

b) The ones they personally needed to develop to be more effective

We asked the same question of the individual contributors who report to these leaders as well as those learning leaders who design and deliver leadership training to this population.

Our first observation is that unlike the leadership priorities, there is general alignment between the three groups indicating an agreement on what factors make for a successful leader.

Legend:
IC = Individual contributors
MGR = Managers/Leaders
L&D = Learning professionals
! = important for managers/leaders to be effective
C/D = my manager/I need to be more effective (i.e., improvement need for manager or self)

Table 3: Leadership actions that are important and those in need of development.

	Individual Contributors		Managers		L&D	Notes (see next page)
	!	C/D	!	C/D	!	
Building trust with the team	#1	#3	#1	#2=	#1	A
Communicating effectively at all levels of the organisation	#2	#5=	#2	#1	#3	A
Building collaborative relationships throughout the organisation	#5	#4	#4=	#6	#2	
Coaching and developing the technical people on the team	#6	#1	#8=	#7	#5	B
Giving specific, relevant feedback	#3	#2	#7	#8	#4	C
Receiving feedback from others	#7	#7	#8=	#9	#9	
Building a strong reputation for the leader and the team throughout the organisation	#8=	#8	#3	#4	#8	D
Encouraging employees to take initiative in solving problems	#8=	#10	#4=	#2=	#7	D
Delegating work effectively	#4	#5=	#6	#5	#6	
Encouraging risk-taking and innovation within the team	#10	#9	#10	#10	#10	

Notes:

A: "Building trust with the team" and "Communicating effectively at all levels of the organisation" were perceived as the most important items to ensure a manager is successful. These are also areas where managers feel a need for personal development.

B: Coaching and development were not seen by direct reports as a top item for the manager to be effective (not surprising given technical peoples' preference to work autonomously and unsupervised). It was, however, an area where managers are perceived to be weak by their teams, even though leaders themselves don't think it's a high priority for personal development.

C: "Giving specific, relevant feedback" is also an area where we see a gap: leaders do not believe it's a focus area for personal development, nor do they rate it high in terms of ensuring effectiveness. Their team members, on the other hand, place this high on the list both in terms of importance and need for improvement.

D: On the flip-side of "giving specific, relevant feedback" we find two items where leaders see a need for personal development, but neither their team members nor the learning leaders give them the same relative importance. These are "Building a strong reputation for the leader and the team throughout the organisation" and "Encouraging employees to take initiative in solving problems." The importance of building a strong reputation is a task leaders feel is both important to success and a development need. However their team members do not perceive this to be a priority and the L&D team is not likely to focus on this as an area of development.

Table 4: Which of the actions below do you believe contribute to you being successful as a Leader or Manager of technical people?

	Rank 2013	Rank 2006
Building trust with my team	1	3
Communicating effectively at all levels of my organisation	2	2
Building a strong reputation for me and my team throughout the organisation	3	6
Building collaborative relationships throughout my organisation	4	1
Encouraging my employees to take initiative in solving problems	5	5
Delegating work effectively	6	N/A
Giving specific, relevant feedback	7	4
Receiving feedback from others	8	8
Coaching and developing the technical people who report to me	9	7
Encouraging risk-taking and innovation within my team	10	9

If we examine how the leaders' ranking of leadership actions has changed since 2006, it reveals a shift in priorities. Collaboration and trust remain high on the list although the emphasis has shifted from the external perception of the team ("Collaborative relationships throughout my organisation") to the individual leader ("Building trust with my team").

The relative importance of giving feedback and coaching seems to have diminished, which is not a positive trend given the demand we are seeing from individual contributors.

"Influencing and negotiating with high-level executives across the organisation."

"Making the team feel he is more concerned with advocating for his workers than himself."

"Setting a vision for the team."

Characteristics of Technical People

To better understand the challenge of leading a specific population, it is important to understand self-perception (how members of that group perceive themselves) and how those aspiring to lead the group perceive their characteristics. In both instances perceptions are known to be biased, with self-perception being especially flawed. So the objective here is not to provide an exact, objective determination of behaviours or characteristics, but rather to identify gaps in assumptions or perceptions that will help inform our development efforts.

Table 5: Characteristics of technical people

	Ranking IC	Ranking MGR	Rank Difference	Normalised Gap*
I like to learn and build my skill sets; I value personal development	1	2=	1	-19 pts.
I prefer clear direction and few check-ins	2	5	3	-19 pts.
I prefer independence when deciding how to get my work done	3	6	3	-8 pts.
I like to brainstorm and share ideas with others	4	2=	2	-3 pts.
I look for variety in my assignments	5	9	4	-15 pts.
I like to solve problems independently	6=	8	2	-5 pts.
I want to be recognised for my professional accomplishments and successes	6=	1	5	11 pts.
I strive to stay current on the latest technology and industry advances	8	12	4	-11 pts.
I need time to think before reacting	9	10=	1	-6 pts.
I like to be the “expert”	10	4	6	16 pts.
I must understand the “why”— the “big picture”— before I am fully committed to a project.	11	7	4	12 pts.
I work non-stop to solve problems, even if it means re-doubling efforts	12	19	7	-8 pts.
I identify more with my profession than with my organisation	13=	15	2	5 pts.
I need to understand how my work contributes to the organisation’s success	13=	10=	3	12 pts.
I tend to be skeptical	15	17	2	1 pt.
I can be competitive with other team members	16	14	2	8 pts.
I assert strong opinions that can sometimes lead to arguments or debates	17	16	1	10 pts.
I have needs and concerns that are different from the other non-technical people I work with	18	18	0	6 pts.
I need to be convinced of the value of new ideas	19	13	6	17 pts.
I become disengaged when I can’t achieve a balance between work and my need for learning	20	20	0	-5 pts.

* A negative score indicates the IC rated themselves higher than the manager. A positive score indicates the manager ranked this item higher than the IC. For example, the item "I look for variety in my assignments" was ranked 5th by the individual contributors but ranked 9th by the manager with a large gap (-15 percentage points), indicating that managers perceive their team members as needing less variety than the individual contributors would like. Conversely "I want to be recognised for my professional accomplishments and successes" is an area where managers perceive a high need for technical people, whereas individual contributors don't express that need as strongly (+11 percentage points).

While both groups are fairly closely aligned in terms of their ranking of the first 9 items, some large gaps in scores are apparent which indicates that a difference in perceptions exists - with ICs ranking themselves higher on many of the statements (especially the positive ones).

For example, the first item ("I like to learn and build my skill sets; I value personal development") indicates that individual contributors believe they place a great value on acquiring skills and personal development. Their immediate manager or team leader may not see this express itself so readily in day-to-day work.

In a similar fashion managers are underestimating the individual contributors' desire to operate with "clear direction and few check-ins," which points to an issue around delegation - with managers assuming the individual contributors need more hands-on direction. Team members want to be trusted to get the job done without being told how.

Other pointers for managers from these insights include:

- Build greater variety into the assignments
- Provide more opportunities to stay current
- While individual contributors may well have a need "be the expert" or "need to be convinced of the value of new ideas," this is not a need they will express overtly and so it needs to be done tactfully
- Individual contributors will likely be competitive, but may not express this openly (unlike, say, the sales team) - so encouraging overt competition within the team may backfire, but subtle competitive pressure may be rewarding

"For a manager to better lead me, they would give me a clear object for completing a task but allow me to accomplish that task through my own method."

"I am highly organised and able to figure out problems on my own. I am also detail-focused and want to know why I'm doing something to see if I can improve it."

Designing Development Initiatives for Technical Leaders

As all technical fields have evolved, so has the world of learning. New technologies have been introduced, new techniques developed, and of course the leadership challenges and dynamics of the workplace have changed over time. As a consequence, technical leadership programmes developed a decade ago will be out of sync with today's workplace realities.

If we are to successfully help leaders of technical people identify and avoid the pitfalls they face, as well as understand what makes technical professionals tick, we need to design effective learning initiatives and complementary development opportunities. This means understanding the way these leaders operate and how best to meet their learning preferences.

We asked leaders of technical people, as well as individual technical experts, what their preferences were around learning formats, channels, length of training, content, use of technology, etc. Here are some of the key highlights from our study.

- Technical leaders and technical individual contributors have very similar patterns when it comes to learning preferences, indicating that technical leaders do not shed their technical approach to learning as they move into managerial positions.
- Technical leaders are under pressure from deadlines and personal workload. Like most leaders in organisations, they are torn between a long-term investment in their skills and their team and the work that needs to be done today. As a consequence, when it comes to learning 65% of leaders favour "multiple shorter sessions" over longer ones.

The subtleties of "social"

Social learning is a growing trend in corporate learning. User-generated content and peer-support is gradually complementing (and sometimes replacing) traditional instructor-led programmes. The technology to enable enterprise learning through social methodologies is now widely available.

Before we jump in and deploy social learning for this technical population, it helps to understand how technical people relate to social media. In broad terms, technical people are not social animals, and among those who do participate in social media activities they do not relate to these as learning channels. Non-technical people are more likely to be open to unproven non-expert input from peers, but technical people put little value on this content. Instead they seek out the expert opinion of those they respect in a specific discipline. Consequently 54% of leaders of technical people (and 58% of individual contributors) would "Seek help from my peers or friends" - but with the caveat (as explained in the write-ins and interviews) that the peer or friend was considered highly competent in this topic.

Only 38% of individual contributors would approach their "manager or mentor" to learn something new - a strong indicator of the autonomous character of technical professionals and the stigma in technical circles of "not knowing the answers." This autonomous streak carries through to the leader ranks where only 39% would go to their manager or mentor.

Virtual learning has a bad rap

Only one-in-three (36%) leaders of technical people would favour virtual classes as a preferred learning channel. Technical people would rather work on a self-serve basis (i.e., access resources/web pages online or read books or articles). None the less, the benefits of virtual delivery (travel cost/time saving) are such that we need to learn how to make this a compelling delivery method, even though we know there is a credibility barrier that we need to overcome.

Deploy technology carefully

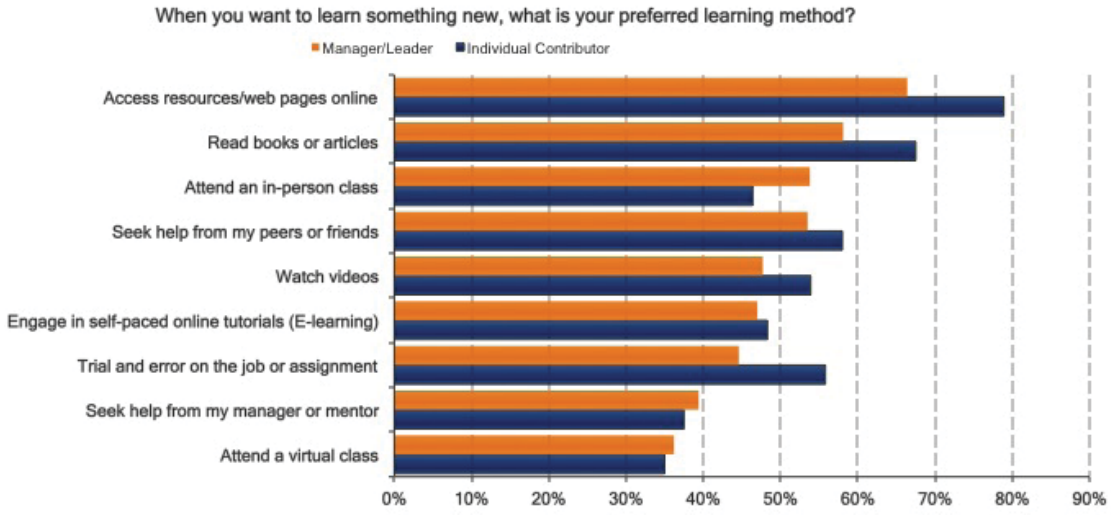
Many of the executives and learning professionals that we interview in the course of our work make the (sometimes false) assumption that all technical people are tech-friendly. In practice we have encountered technical experts who are not digitally savvy (to distinguish technical from technological).

Another assumption we must be cautious of is that access to technology means a preference in terms of learning platforms. While 69% of leaders use smart phones, and 50% have tablet computers, only one in three favour using smart phones as a learning platform, favouring computers (87%) or tablets (49%)[1] (See Table 9). Technical people are for the most part desk-bound (even those working in a lab) and do not see a great need for mobile learning.

When it comes to which technologies provide the most value in a learning experience, computer simulations, use of video, and internet resources all received over 50% positive responses from leaders. Newer technologies and learning approaches such as social media and mobile apps were not highly rated by participants.

As employees progress from personal skill development to developing leadership skills, the role of technology declines as does the expectation of the class being "entertaining." Instead the use of real work, business simulations, and access to senior leadership becomes more important.

Figure 1: Learning preferences for Managers and Individual Contributors



[1] While 50% of leaders report owning a tablet and 49% favour using a tablet for learning, these are not the exact same respondents: only 71% of tablet owners favour using this as a learning device and 84% of tablet users still favour a computer as the channel of choice for remote learning. Conversely, 13.5% of leaders who do not own a tablet do favour it as a learning channel.

There is also a clear preference (albeit not unanimous) for learning in multiple, shorter sessions (see below).

When it comes to future technology that technical people or leaders of technical people would like to see deployed, the priorities are stacked identically between leaders and ICs. Leaders favour mobile apps and social media relatively higher than ICs, but computer simulations and internet-based resources are most sought after (See Table 8).

When it comes to learning applications, individual contributors and leaders alike have a preference for accessing on-demand content (tips and tricks, videos, articles), and are less intent on tracking their behaviour, practicing skills or scheduling reminders. So they rank information access that they initiate (Pull) over reminders or other learning prompts (Push). For this technical audience, the idea of using learning applications in any social sense seems far removed. This aspect of finding what you need when you need it, or "Just-In-Time" learning, has huge implications for traditional learning in terms of how information is accessed and the energy spent on retaining that new information. It also reminds us that simply "pushing" out learning content to a population does not necessarily engender behaviour change.

Table 6: If you were attending an in-person class, what would you prefer?

Answer Options	IC Response	Manager Response
To learn in one longer session	31.3%	34.7%
To learn in multiple, shorter sessions	65.8%	65.3%

Table 7: In past training programmemes that you found to be effective, what technology was used?

Answer Options	Rank IC	Rank Mgr	Gap
Computer simulations	1	3	0.1%
Video	2	1	8.3%
Internet	3	2	8.7%
Online activities	4	4	12.4%
No specific technology was used	5	7	-4.5%
Social media	6	5	10.0%
Applications that could be accessed by mobile device	6	6	6.8%

"Minimal on the videos... more on the here and now fix-it would help."

Table 8: What technology would you like to see as part of a future training programme?

Answer Options	Rank IC	Rank Mgr	Gap
Computer simulations	1	1	-0.4%
Internet	2	2	-1.8%
Online activities	3	3	-0.8%
Video	4	4	0.5%
Applications that could be accessed by mobile device	5	5	8.1%
Social media	6	6	12.2%
Other (please specify)	7	7	1.3%

Table 9: How would you most like to access applications for learning on the job?

	IC Response Percentage	Mgr Response Percentage	IC Rank	Mgr Rank	Gap
Computer	91.9%	86.5%	1	1	-5.4%
Tablet	40.1%	49.4%	2	2	9.3%
Smart phone	30.4%	36.5%	3	3	6.1%
Other (please specify)	1.3%	2.4%	4	4	1.1%

"Hands-on environment with clear directions and big ideas from smart and talented people."

"Multiple sessions, but have both in-class and practical application lessons."

A learning disconnect

Training and development has long catered to the hard technical-skill development of expert employees. But when it comes to leadership development for this population, they are short on specific solutions. A recent joint study undertaken by BlessingWhite and TrainingIndustry.com [http://trainingoutsourcing.gpstrategies.com/common/pdf/trnOutsource/researchStudy2013.pdf] reports that only 27% of organisations offer specialised training for leaders of technical people. The others have to make do with generic leadership training which will not address the specific challenges they face.

Furthermore, as detailed earlier in the report, training departments in companies are working off wrong assumptions when it comes to the most pressing leadership challenges.

Finally, our observation is that a rush to deploy new learning technologies without understanding the wishes and preferences for the learning population results in poor learning experiences. Learning objectives are too readily sacrificed at the expense of learning trends.

"The hard part for me is dealing with people who aren't technical professionals (like business managers) who don't know how to relate to us technical people."

"I would only attend if there was significant benefit. Training on things like team improvement has never seemed to add value, especially since it was not done with my team but with strangers."

"I like to read various posts on the internet which may seem irrelevant to my job but usually they help me solve problems better."

Recommendation

Make your solution personal

This report presents the findings from a broad sample of leaders across many different organisations and disciplines. When addressing the leadership needs in your organisation, we recommend that you use this report as a framework for discussion rather than a definitive conclusion on what needs to be addressed.

For example, in several technical organisations, we found access to learning technology (mobile devices, tablets, video conferencing) to be substantially lower than anticipated. In others we found that managers were effective at leading their teams at a local level, but lacked the broader context from the executive team to set priorities and make local decisions. In still others we found technical teams led by non-technical business leaders, which presented a different set of challenges.

Five areas of focus

With this in mind, here are five top recommendations for focusing development efforts for leaders of technical people. We encourage learning leaders to review current development efforts to ensure they are driving towards these five leader behaviours.

#1 Be leaders of people, not managers of projects

Leaders of technical people need the right context for their role. They are often unclear on what "leadership" is and how it is different from managing tasks or running projects. They need to understand what effective delegation looks like - namely providing direction, support and inspiration to a team, not directing or dictating approaches and methodologies.

- They need to overcome their inclination to micro-manage even when they feel they know the best way to do things. That means more delegating and coaching.
- They also have to inspire team members' discretionary effort and leverage team members' unique talents and expertise. Leadership, not supervision, is the ticket for doing that.
- It's about excelling at many of the leadership actions that our survey findings suggest may be the most difficult for this population: motivating, inspiring risk-taking and innovation, coaching, managing change and developing their people.

Leadership Actions:

- The organisation needs to provide clear context on what leadership looks like in this organisation, and what the expectations are for leaders. This training needs to be provided in short order after a technical person is promoted to a managerial/leadership role.

#2 Understand what makes technical people tick (even if they are one themselves)

Our research reconfirms that technical people are particularly poor at self-awareness. This is true for most employee populations, but the challenge is more acute with smarter expert employees - a stereotype perhaps, but one that bears out.

Simply describing the needs of those who report to them is not sufficient to result in behaviour change. We need to create opportunities to see how these dynamics play out in the day-to-day workplace, and how leaders benefit from better understanding - and tapping into - the needs and motivators of technical people.

Technical people across industries and disciplines may not speak the same technical language, but they do share similar characteristics. This expert slice of the workforce exhibits a high need for achievement, autonomy, collegial support and sharing, keeping current, professional identification, and participation in mission and goals.

As a result, leaders of technical people need to apply leadership skills strategically. This challenge goes beyond the fundamentals. It requires, for example:

- Setting and supporting goals without impinging on their team members' desire for autonomy.
- Delegating responsibility in a way that involves their team members in the decision-making process and connects the work with a larger organisational goal.
- Providing development and networking opportunities so that their teams can keep current and feel supported.
- Creating a work environment that fosters creativity and individual achievements while focusing efforts on team goals and organisational priorities.
- Increasing their comfort with innovation and risk so they can better support their team members' desire for challenging work (and their organisation's mandates for faster, better, cheaper, etc.).

Leadership Actions:

- First, build awareness of the unique needs and skills of each individual on your team.
- Get support in clarifying your own strengths and development needs in this new role.
- Ensure goals are defined clearly without prescribing a specific approach or method for getting to the goal. Focus on parameters such as budget, timeline and available resources - what is available to do the work, not how to do it.
- Hold conversations with teams around risk and failure: what are the odds of success and what would the results of failure be? Ensure team members are comfortable taking appropriate risks in order to innovate.
- As a leader, learn to share more of your own motivations, of who you are and what you care about. Make your leadership personal, not just a functional role.

#3 Be just enough of an expert to lead, not do

The irony of leading in a technical or expert setting is that greater expertise can be a hindrance not an asset. Technical leaders need to learn to put their expertise in the background in order to lead effectively - not an easy proposition for employees who so far have been recognised primarily on technical merit. They must rely on their team members, not their own know-how, to deliver results. This will no doubt be a tricky balance since they need to show enough expertise to be respected yet avoid jumping in and become the "problem solver."

This is where effective delegation comes into play - the ability to set required parameters, then let the team members take ownership of the work without feeling chided or intimidated.

The majority of individuals who lead technical people rose through the ranks because of their technical expertise, not their people skills. They like being experts. But their new job is about delivering results through others, so they need to figure out how much knowledge is "just enough" to be able to lead a team of experts. Our findings suggest they struggle with finding that balance. They need to make equipping their team members with the latest knowledge and skills a priority and they need to be selective about their own development.

Leadership Actions:

- Shift your focus from "doing" to "leading." Learn effective delegation skills, set goals gently whenever you can. Effective delegation allows others to grow and builds trust.
- Define general guidelines for decision-making so that team members are clear on their accountabilities and scope. Encourage team members to adopt broad scopes of responsibility.

#4 Build trust by engaging in purposeful dialogue with team members

As indicated in this report, there are many areas where the individual contributors and the leaders (and the L&D professionals) are out of sync. To get better alignment on requirements and foster productive working relationships, leaders need to earn the trust of their teams and engage in purposeful dialogue.

- They must invest in conversations - setting goals, explaining the "why" behind the "what," handling resistance and providing ongoing feedback. Otherwise their team members won't have the information or motivation they need to take initiative.
- They must get to know team members to gain clarity on how they are perceived as a leader and what interaction their team members find most valuable.
- Leaders must understand that trust goes both ways: Leaders must earn trust, but also be trusting of their teams.

Leadership Actions:

- Gain awareness of how actions are perceived by individuals and your team, regardless of intent.
- Build, repair and maintain trust through honest and regular feedback.
- Use some mechanism for benchmarking and monitoring your effectiveness as a leader. Be open to feedback and be prepared to flex your style to the needs of the team.

#5 Increase their influence outside of their team or department

Despite their team members not perceiving this as a top priority and L&D not addressing this as a development need, leaders in technical environments are the spokespeople for their team's work and contribution to the goals of the organisation - they need to effectively communicate with the broader organisation and build visibility and credibility for the team. This is a part of the leader's role which is often out of their comfort zone and outside of their traditional skillset. While presentation skills may help, a focus on influencing skills and business savvy will help them connect what their team is working on to the business benefits and the interests/styles of other groups in the organisation.

Our research indicates that leaders of technical people understand that they need to be less insular. They recognise the need to build collaborative relationships and communicate effectively at all levels of the organisation. Most also recognise that they don't do this as well as they need to.

- These leaders need to be able to translate their team's core capabilities, ideas and accomplishments for non-technical colleagues. They need to be able to "influence up" to secure resources or promote innovative ideas.
- Whether they like it or not, a lot of them are being pulled into conversations about business strategy because their teams are vital to product development, delivery and support. So broadening their understanding of their organisation's business is a key development need.

Leadership Actions:

- Invest time in learning about the business more broadly. Learn to speak the language of the business and of other teams, not just the technical domain you represent.
- Learn to connect the contribution of the team or division to business outcomes. Express contribution in terms that resonate with other departments, not just in technical parameters - i.e., what are the client benefits of a new approach?
- Improve influencing skills and communication skills through training and practice. Seek out opportunities to gain exposure outside of the usual communication channels.
- Encourage team members to also take part in the communication process - do not assume that you, as the team leader, should be the sole spokesperson for the team's work.
- Build a partnership with your immediate manager and other more senior leaders in the organisation: they should be providing you with access and the opportunity to build visibility for your work.

> *"One problem is that technical professionals don't need encouragement to work, they need feedback on when work is good enough. We tend to overwork because our work is actually fun."*

In Conclusion

The contribution of technical experts to the success of organisations can only increase in the coming decades now that ideas and innovation rule the day. Those organisations that understand the needs of such experts and develop the work environments that allow them to engage in the mission of the organisation will have a clear advantage.

This starts with effective leadership development for those technical people who are assuming leadership roles.

We encourage you to access our research and develop your knowledge of this topic and the nuances of your organisation, and to plan specific training for those tasked with leading technical teams.

Leading Technical People+

Our 2013 research was conducted for several purposes, the primary one being to ensure that the consultative work we are doing with clients is aligned with the most current business priorities, marketplace realities and learning best practices. The world of business is changing rapidly and we are committed to changing just as fast.

In the summer of 2013 we are releasing a new version of BlessingWhite's flagship programme: Leading Technical People+.

Building on the pedigree of the original LTP programme, we have worked in close collaboration with some of the leading companies in the fields of science and technology - companies who believe that their approach to leadership needs to remain as sharp as their technical dominance in the fields of telecommunications, software development, genetic engineering or medical instrumentation design.

If the contents of this report resonate with the leadership challenges you are seeing in your organisation, we invite you to connect with us. Learn more about how the research-based programme Leading Technical People+ can help you rapidly deploy the most current leadership development approaches to your technical leaders. By accessing our modular, multi-modality learning platform, your organisation can:

- Increase the engagement in technical teams - for individual contributors and team leaders alike.
- Take the performance of technical teams to the next level in innovation, technology adoption, speed of delivery and focus on client needs.
- Retain valuable technical talent.
- Develop a reputation over time as a preferred career destination for ambitious technical professionals.

About This Report: Methodology and Sample Breakdown

This report was based on the responses collected during February - April 2013 from 946 managers/leaders of technical people, as well as 336 technical people individual contributors as follows:

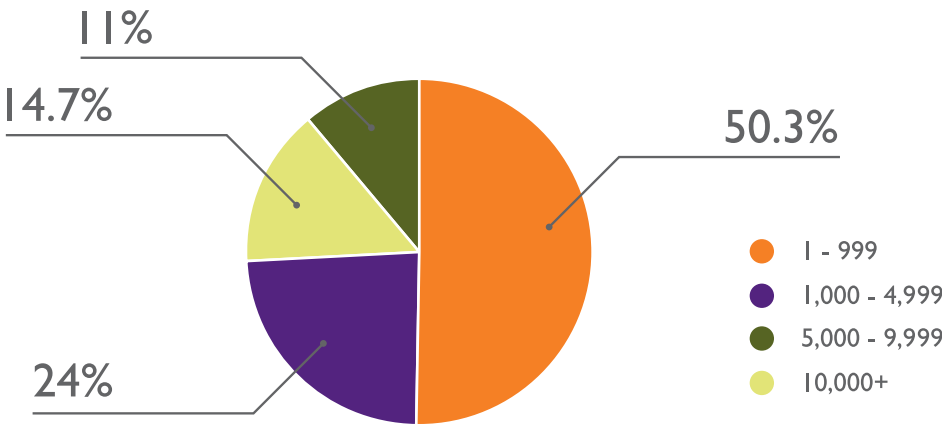
	Technical People	Non-Technical People
Individual contributor	336	141 (excluded)
Manager	516	23
Leader (all types)	380	27
Total	1,232	191

Survey participants were presented with the definitions as provided in this report and asked to self-identify as a technical professional. In addition to the results reported here 141 respondents were excluded from the analysis for not identifying as either technical people or manager/leader of technical people.

As per the table above the study did include 23 managers and 27 leaders of technical professionals who did not report being technical people themselves.

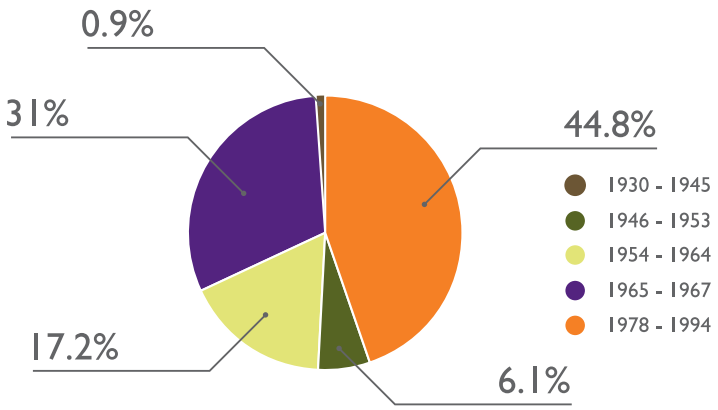
In addition to this study, BlessingWhite collaborated with TrainingIndustry.com to gather the perspectives from 101 learning leaders. The TrainingIndustry.com report was published separately at *http://trainingoutsourcing.gpstrategies.com/common/pdf/trnOutsource/researchStudy2013.pdf*

The population was global in nature, but primarily drawn from the USA, India and Europe. They came from a mix of organisations large and small:

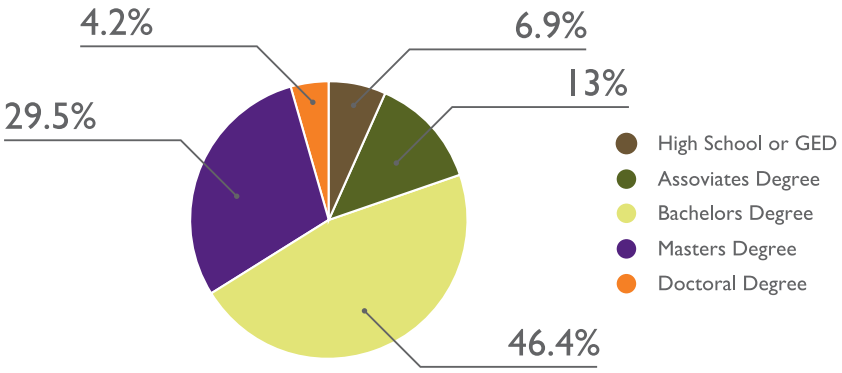


The companies they work for are heavily weighted towards the technical as might be expected (Software, Electronics) but include Manufacturing, Banking, Academia, Insurance and Construction.

Respondents were younger than the population at large with 45% born after 1978:



Respondents were 70% male and 30% female and typically well-educated, with over 80% having achieved a Bachelor's degree or higher.



One in three works on a virtual team and two-thirds of these virtual teams are global.

> *"I'm currently thinking about the issue of 'face time'… not many team members have to necessarily spend a lot of time at the office to get their work done (we're quite flexible about working from home), but I think it really detracts from the overall group productivity to have people scattered around. It's tough because it's somewhat intangible, but I think that a lot of the incidental meetings, hallway chats, etc., can actually help develop ideas (not to mention camaraderie)."*

Notes

North America | Europe | Middle East | Asia-Pacific

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