

Think Talent Series

AI and Robotics: Talent Acquisition Reinvention or Hype?

IBM Consulting



Part One

What Is Think Talent?

Mission

HR and Technology have become inseparable, giving rise to new opportunities and challenges alike. The IBM THINK Talent Community was created to help leaders be ready for both. It is a place for leaders in the talent space to share their ideas and experiences.

Vision

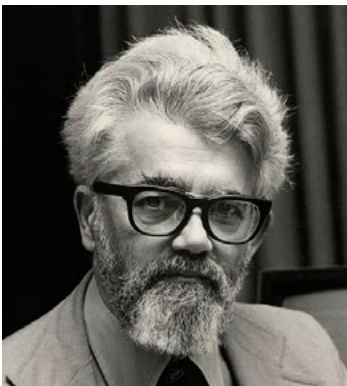
We are committed to exploring topics that affect talent acquisition, supported by research and peer-to-peer workshops.

A brief history of artificial intelligence



Alan Turing

A British mathematician and WWII code-breaker, Alan Turing was credited in 1950 as being one of the first people to come up with the idea of machines that think. He created the Turing test, which is still used today, as a benchmark to determine a machine's ability to "think" like a human.



John McCarthy

An American computer scientist pioneer and inventor, John McCarthy was known as the father of artificial intelligence after playing a seminal role in defining the field devoted to the development of intelligent machines. The cognitive scientist coined the term in his 1955 proposal for the 1956 Dartmouth Conference, the first AI conference.



Marvin Minsky

American cognitive scientist Marvin Minsky picked up the AI torch and co-founded the Massachusetts Institute of Technology's AI laboratory in 1959 with McCarthy. (McCarthy later founded Stanford's AI Laboratory, known as SAIL, which became MIT's rival.) Minsky advised Stanley Kubrick on 2001: A Space Odyssey, released in 1968, which gave the world one of the best representations of AI in the form of HAL 9000. He described AI as:

“The science of making machines do things that would require intelligence if done by men.”

Today, we see the effect of AI across many industries:



Weather

More accurate weather predictions, helping insurers to reduce risk, race car owners to enhance performance, media companies to improve newscasting and airline companies to make aviation safer.



Health

Analysis of vast amounts of patient and medical data, leading to more prevention and treatment of medical conditions on a personalized level.



Business

A Japanese VC firm, Deep Knowledge, recently became the first company in history to nominate an AI board member.

When you hear the term “artificial intelligence,” think about pattern recognition, because that’s what AI is all about. When we learn, we’re training our brains to recognize patterns. For instance, soon after we’re born, we start to recognize that two eyes, a nose and a mouth are a pattern for faces, and as we get older we learn the patterns of sound, speech and syntax to understand language.



AI takes the same approach:

- AI systems understand imagery, language and other unstructured data like humans do.
- AI systems learn through each data point, interaction and outcome, thereby developing and sharpening expertise.
- AI systems reason, grasp underlying concepts, form hypotheses and infer and extract ideas.
- AI systems interact with humans in a natural way through their abilities to see, talk and hear.

How are AI & Robotics impacting Talent Acquisition?

As a function, talent acquisition has not evolved much in the last 30 years. Essentially, we have advanced from using Rolodexes and fax machines to using social media, job boards and applicant tracking systems.

IBM believes that AI & Robotics can help talent acquisition practitioners source, engage and attract candidates, as well as screen applicants, schedule interviews and much more. For instance, AI can be the basis for Robotics Process Automation (RPA) and chatbots, which automate tasks. Our view is that if there is a linear path to get to the answer, a computer can do it faster.

We're in the start of a talent acquisition transformation that will change the role of recruiters. Recruiters won't be replaced. Rather, the role will evolve to have a more strategic position within organizations to the benefit of all stakeholders.





Part Two

AI and Robotics: Talent Acquisition Reinvention or Hype?

All of this potential for transformation, combined with recent studies, was the driving force behind our benchmark study on AI & Robotics. Will these technologies lead to reinvention of the talent acquisition function, or is all the buzz about them nothing but hype?

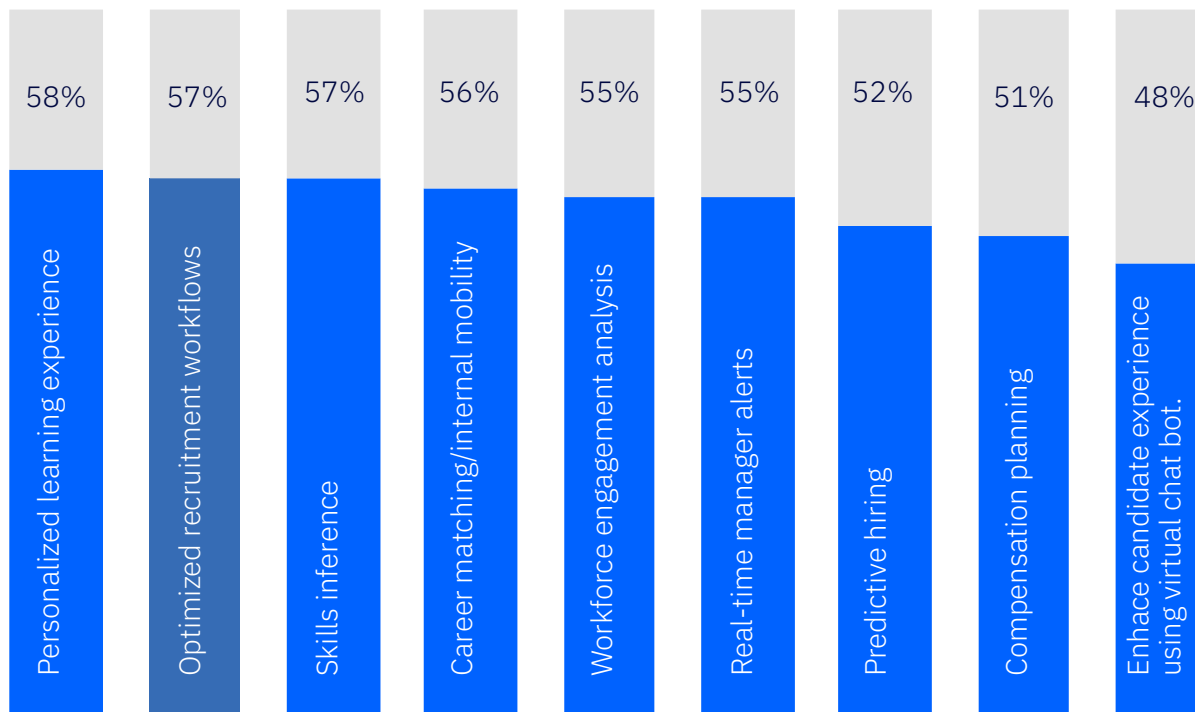
An IBM study of 1000 HR managers conducted globally discovered that:

51%

of HR leaders have adopted AI within Talent Acquisition and Onboarding

In a survey conducted by IBM's Institute for Business Value, 1,000 respondents identified the following HR-related functions where they currently use AI.

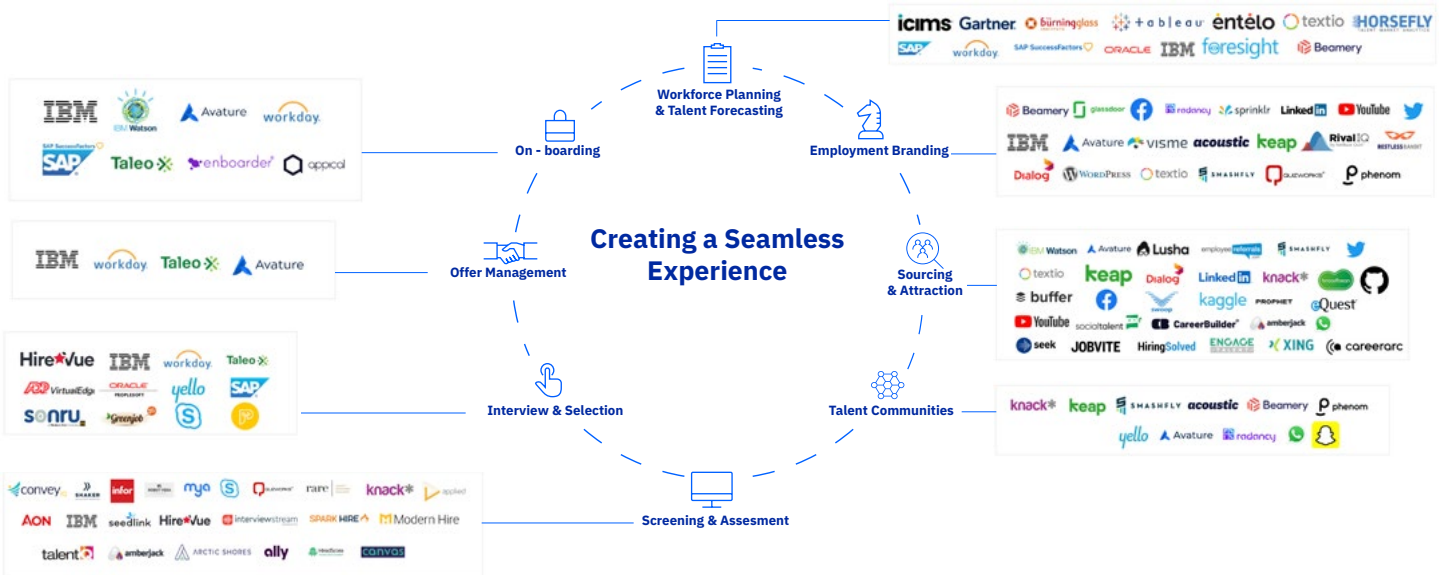
Organizations are implementing a variety of HR related use cases of AI



We are starting to see a shift in mind-set from the art of the possible to the reality.

Where to start?

Our research revealed that organisations that have adopted new technology believe there is more to adopt, and organisations that have yet to adopt new technology believe there is too much tech out there and don't know where to begin. The technology ecosystem for talent acquisition is complex. How can organisations differentiate between so many offerings?



Benchmark Overview

We undertook one-hour stakeholder interviews with 30 organisations that are collectively responsible for 150,000 hires per annum.



Where is technology augmenting talent acquisition today?

Collectively, the 30 organizations are using 175 technologies throughout the talent acquisition lifecycle, an average of 5-6 per organization. Use case is an example of a technology being used in a step of the process; an organization could have multiple use cases of the same tech (e.g., Workday for Measure and Engage and Offer / Reject).

Workforce Planning	Employer Branding	Source and Attract	Screen and Assess	Interview and Select	Offer / Reject	Onboard	Measure and Engage
8%	17%	35%	20%	5%	5%	5%	5%

The steps with the most tech adoption are Employer Branding, Source and Attract, and Screen and Assess. This is not a surprise, but does demonstrate a tech adoption gap in other areas of the lifecycle.

What are we planning to change?

Workforce Planning	Employer Branding	Source and Attract	Screen and Assess	Interview and Select	Offer / Reject	Onboard	Measure and Engage
+43%	+14%	+18%	+51%	-	-	+125%	-

The group plans [49 additional use cases](#) for technology in the future with a clear focus on: Workforce Planning, Screening and Assessment and Onboarding.

The focus shifts from Source and Attract as the most prevalent step receiving tech investment to emerging areas such as Workforce Planning and Onboarding, and an increased focus on Screen and Assess.

What technology did we find?

Workforce Planning

Current -14

Proprietary Solution	29%
Analytics Vendor	29%
External Insight Vendor	14%
HRIS Vendor	14%
ATS Analytics	14%



Future -6

External Insight Vendor	50%
Analytics Vendor	17%
HRIS VENDOR	17%
Proprietary AI Solution	17%



Workforce planning is fairly underrepresented in terms of tech adoption, and most of it is proprietary. We found 147 tech use cases, but only 14 being used today.

AI is lacking in this area; debated due to the challenge to contextualise data in the context of individual organisations.

43% are planning on changing Workforce Planning, with an increased focus on the value that tools such as Foresight can bring. Many are going through the implementation of Workday/SF now.

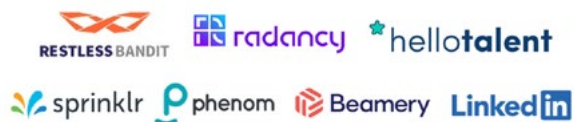
Proprietary AI solutions should solve the challenge of third-party tools being able to contextualise org-specific data.

What technology did we find?

Employer Branding

Current -29

Social	55%
Posting Aggregator	14%
AI Enabled Marketing	10%
TRM	11%
CRM	7%
Job Board Sponsorship	3%



Future -4

TRM	50%
ChatBot	25%
Career Site Analytics	25%



Employer Branding is in the top three areas for current tech adoption. New tech includes Talent Relationship Management and AI-Enabled Marketing. TRM vendors such as Phenom People are integrating CRMs and career sites with a personalised experience.

The future has a continued focus on TRM coupled with Google Analytics to track brand interaction. We also see the consideration of a chatbot.

What technology did we find?

Sourcing & Attraction

Current -61

Social	51%
Aggregated Search	18%
Job Boards	11%
Aggregated Posting	11%
Email Scraping	3%
Gamification	3%
ChatBot	2%
AI Ad Optimisation	2%



Future -11

Aggregated Search	45%
Aggregated Posting	18%
ChatBot	18%
TRM	9%
D&I Job Board	9%



This is a top area for current adoption. However, there is minimal focus on emerging tech. **80% of what we do today is not AI.** There is a lot of focus on social, aggregators and job boards. LinkedIn is still our best friend!

That said, Entelo, Swoop and HiringSolved aggregate social profiles using AI and proactively search for candidates. We are also seeing the use of email scraping and some use cases of AI to optimise advertising with Textio.

In the future there will be greater adoption in aggregated search (talentwunder) and posting, more chatbots and D&I advertising.

What technology did we find?

Interview and Select

Current -9

Video Interview	56%
Auto Scheduling	44%



Future -3

Video Interview	67%
Auto Scheduling	33%



Sophisticated tech is not necessary at this step. For instance, a remote video interview can be conducted via Skype.

If AI or automation is required, orgs are adopting pure play vendors like Sonru, SparkHire and GreenJob.

Interview scheduling tends to be an ATS functionality rather than dedicated platform.

What technology did we find?

Offer and Reject

Current -9

ATS	78%
HRIS	22%



Future



The Offer and Reject steps right now rely solely on ATS and HRIS technology.

The participating organisations could not envision a future with AI supporting these steps. A noteworthy observation: organisations say they are competing for talent, and offer rejects are on the rise. There is an opportunity for tech to support the offer process in an interactive way.

What technology did we find?

Onboarding

Current -8

ATS Onboarding	37%
Onboarding Vendor	3%
HRIS Onboarding	13%
Proprietary Solution	13%



Future -10

HRIS Onboarding	50%
ATS Onboarding	20%
ChatBot	20%
Gamification	10%



Today, Onboarding is largely done by HRIS and ATS – this is functional and not experience focused. Onboarding is a top area for future tech investment. Organisations are considering emerging technologies such as chatbots and gamification to deliver a richer experience, increase engagement and speed time to productivity.

What technology did we find?

Measure and Engage

Current -10

HRIS Analytics	30%
ATS Analytics	20%
Analytics Vendor	20%
Survey Vendor	10%
Social Analytics	10%
External	10%

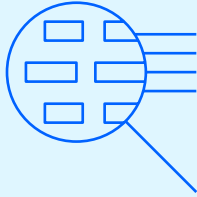


Future -10

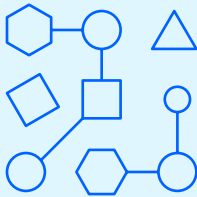
?

Half of the organisations are using HRIS and ATS analytics, relying on analytics vendors such as Spotfire and Google. Participants are uncertain how emerging tech could be used in this step. There is no one platform that incorporates all data, including NPS.

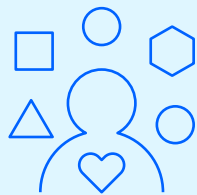
Benchmark Summary



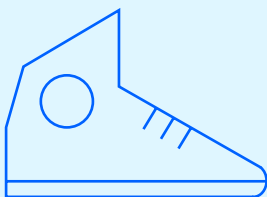
No enterprise-wide adoption; AI & Robotics are used in pockets today



Future areas of investment reflect ongoing objectives of QOH, D&I and EXP



Recruiter augmentation, not replacement—recruiting is a people industry



Most organisations are at the beginning of this journey and need to focus on desired outcomes...

Part Three

IBM Case Study:

Evolving Talent Acquisition to Win Top Talent



IBM Talent Acquisition

IBM is transforming at a rapid pace due to digital and technological changes.

Today, 47% of our revenue is generated from areas we weren't operating in five years ago.

We have evolved ourselves in significant ways — we are a cloud and cognitive company and are known as one of the largest digital agencies in the world. We use Design Thinking and are on the cutting edge of robotics, AI and blockchain.

In this digital age, organizations have to transform to remain essential, and that includes transforming Talent Acquisition. IBM Talent Acquisition has been transforming in various phases for the past decade. We started with outsourcing, then moved to centralization, followed by optimization.

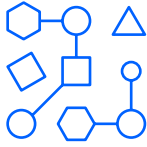
Today, we are facing our biggest transformation to date: the cognitive era, powered to deliver smarter outcomes. Cognitive technology has allowed us to accelerate our transformation, impacting the end-to-end process of our talent lifecycle, from attracting candidates and onboarding new hires, to retaining and growing our talent.

If you are not evolving and differentiating your Talent Acquisition offering, you will lose out on talent, and your company will die. Look at the Fortune 500 companies of just 50 years ago: only 12% still exist. More than 300 of the current list joined in the last 20 years.

But to be truly exceptional, you don't want to just compete. You want to win. And IBM is positioned for that. Here is how we have evolved our Talent Acquisition function.

IBM Talent Acquisition Vision

Revolutionize Talent Acquisition by extending the limits of domain expertise, personalized experience and cognitive solutions.



Domain Expertise

How Talent Acquisition aligns to our business imperative. We are creating new roles and skills capabilities within Talent Acquisition, such as a “talent scientists” and “talent influencers.”



Personalized Experience

This is our current focus. How does the candidate want to be engaged and experience the recruitment process? What can we do differently to engage candidates, such as giving candidates the ability to select elements of the overall compensation package?



Cognitive Solutions

How can we augment what we are doing as Talent Acquisition professionals through the use of intelligent applications?

The Evolution of Recruitment

Traditional Recruitment



Reactive	Cost per hire
Indefinitive	85 days
1:1 rec to req	Active
One size fits all	Linear
Administrator, sourcer, consultant	

The traditional method of recruiting is a linear, sequential method. It is largely a “post and pray” approach to finding talent, and prioritizing requisitions often come down to which hiring manager is the loudest about his or her hiring needs. The average length of the recruitment process with this method is 85 days.



Start

- Plan demand
- Approve headcount
- Open job requisition
- Conduct intake session
- Post job requisition



In-Progress

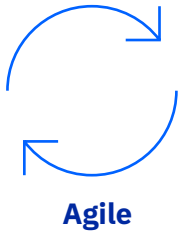
- Source and Screen
- Access and interview
- Conduct F2F interview
- Decide Offer
- Accept Offer



Onboard

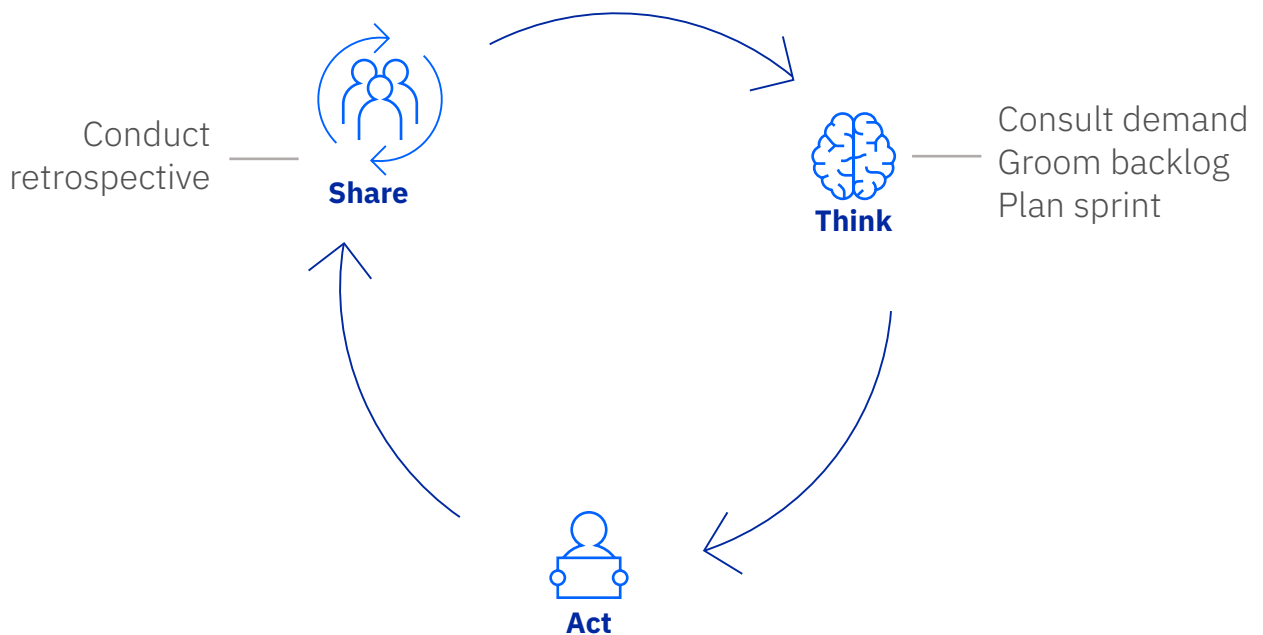
- Check background
- Onboard

Agile Recruitment



Prioritized	Value to business
Sprints	45 days
Team to backlog	Passive
Experienced focused	Circular
Analytics, Agile, Digital	

IBM is following this model and creating a “Recruiting First” culture. The Agile approach includes scrum teams, which work in a similar fashion to software development teams, that meet for daily standups and have clear deadlines to communicate how they are performing against SLAs and how they can do better. This method has dropped the average length of the recruitment cycle to 45 days. Other positive results include an increase in engagement and trust between Talent Acquisition and the business and a quick spike in NPS.



Agile Recruitment

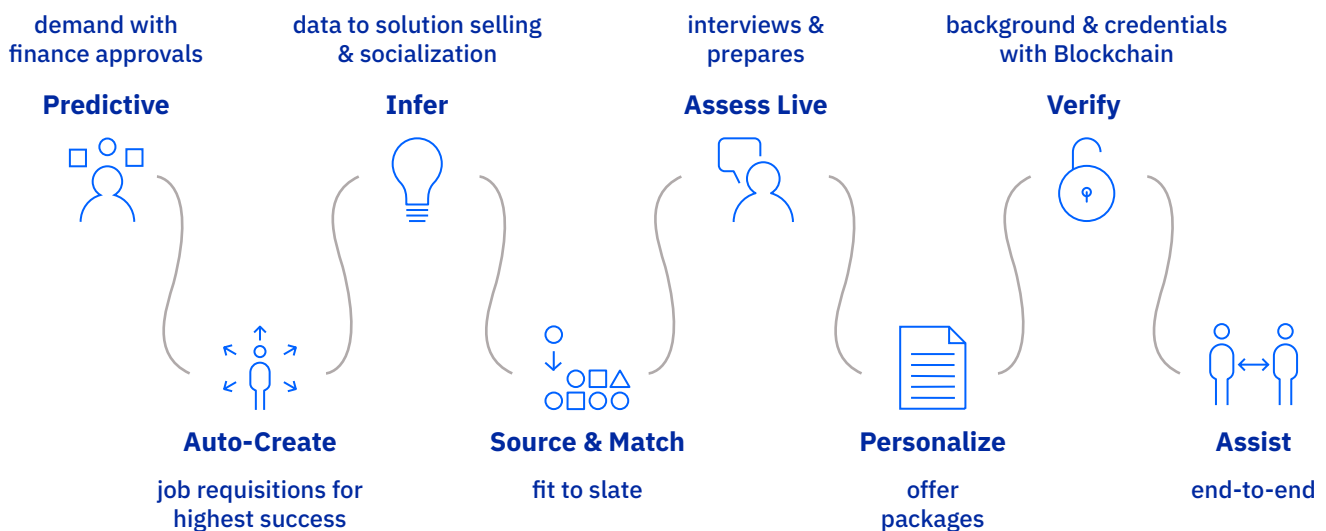


Proactive/predictive	Max outcome/impact
Automated	25 days
Augmented recruiter	Fit
Personalized	Multi-dimensional
Seller influencer, Talent Magnet	

We are in the process of augmenting our Agile method with Cognitive recruitment, mostly through AI and automation. We are using or planning to use tools and technology such as:

- Talent Attraction Match & Search and Prospective Candidate Job Advisor, which interacts with job seekers to inform them about our company and suggests best-fit jobs based on their experience, skills and interests
- Blockchain technology for resume verification
- Watson AI, to eliminate inherently biased questions

In the United States, 86% of applicants are using Talent Attraction Match & Search and Prospective Candidate Job Advisor, and as a result, 35% of those using it are more likely to apply for our open positions. With the help of cognitive technology, we will reduce the average length of the recruitment process to 21-28 days.



The Future of Talent Acquisition

Historically, recruitment has been a three-way relationship: the candidate, the recruiter and the hiring manager. Now there's a very important fourth partner: artificial intelligence—in our case, IBM Watson.

The coming years will combine the power of personalization, pipelines, proactive sourcing and prediction

PRE-HIRE: social engagement, learning, nurturing				DAY 1	DAY 5	DAY 15	DAY 20	DAY 25
Candidates	Share moments of impact publically	Bond with IBM career mentor and seek/rate hiring managers	Build advocacy for IBM and embrace Social Transparency	May/may not see job opening <small>The end of passive active candidates</small>	Receive enticing lead to join IBM	Choose interview time	Prepare for interview with Watson	Choose best package & accepts
Watson	Finds talent Using success profiles	Prompts recruiters to engage and recommends opportunities to candidates	Social listens to improve experiences and predicts demand	Verifies background & credentials with Blockchain & infer data	Sources proactively & matches based on fit	Suggests best interview panel, assesses live 1st tier assistant	Recommends for hire based on fit 1st tier assistant	Prepares & calls for personalized offer 1st tier assistant
Recruiters	Attracts talent as Talent Influencers and grows Klout score	Engage by sending target messaging and opportunities	Nurture ready-now pipeline for critical success profiles	Solution with hiring manager to sell and socialize opportunity	Convert prospects into candidates by video invitation with insight	Assess skills, performance and attrition using data 2nd tier assistant	Predict success and team fit 2nd tier assistant	Celebrate with candidate and transition to on-boarding 2nd tier assistant
Hiring Managers			Auto-create job req for highest success with ease	Understand prioritization and evangelize opportunity	Approve slate and confirm interview times	Track candidates 360 profiles	Sells opportunity to candidate	Celebrate with candidate and prepare for on-boarding

IBM has a very clear vision of where we want our Talent Acquisition function to be and how these methods and tools will fit in. Just as we have evolved our Talent Acquisition function, we can help you evolve yours.

Part Three

Design Thinking





Design Thinking is about understanding and creating value for your user. You can use this practice to design the most efficient and effective way to run a talent acquisition program in your organization.

At the THINK Talent Event, we engaged in a brief, four-exercise Design Thinking session with the goal of hiring for three personas (which are explained at the end of this section).

The four exercises included:

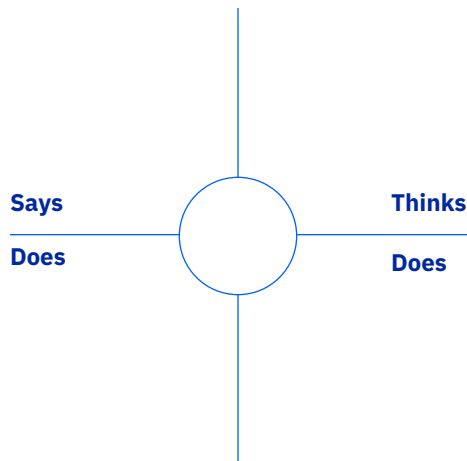
1. Empathy Maps
2. Experience Roadmaps
3. Ideation
4. Playback

Empathy Maps

The group created an empathy map for three types of candidates:

- Early Careers
- Niche Talent
- Internal

This goal of this exercise is to discover how the personas feel, what they are thinking, what they are doing and what they are saying. Put yourself in their shoes and really understand them. Use sticky notes to capture each item and add them to your map.



Experienced-Based Roadmapping

Typical roadmaps focus on what you're going to build. They list technical features and incremental enhancements, but they don't focus on the user or delivering an experience.

Experience-based roadmapping is about determining how we can purposefully, over time, deliver our ultimate vision to the market while focusing on user experience.

The purpose of this exercise is to map out events, thoughts and feelings on a grid for each of the personas. Focus on areas when the user or person is undertaking this activity – what are they doing, thinking, feeling?

Through this exercise you should start to identify pain points for your users. They could be, "How do I find a job" or, "How does a job find me?"

Ideation

Next, the team engaged in ideation. Ideation is problem solving with no limitations. Members of an ideation group should say yes to everything so you can find the best solution for your user without immediate constraint.

Good ideation includes the following best practices:



Defender judgements



Go for quantity of ideas



Encourage wild/absurd ideas



Build on the ideas of others



Stay focused on the topic



Have one conversation at a time



Be visual



Avoid feature functions



Don't go into much details



Consider "It's kinda like..."

Include “Christmas List” items and items from the Art of the Possible first. Then push beyond. Think in terms of “Yes and . . .”

Ban comments such as:

- “It costs too much.”
- “It’s against company policy.”
- “We don’t have the time.”
- “We tried that before.”

Sketch + **Headline** + **Caption**



personal chef
understands
what you want
and serves it
up right on
time.

They’re called **Big Ideas** because they’re meant to be just that — big. You’re working at the conceptual level. Don’t worry about details or logistics during ideation.

For each Big Idea vignette use two sticky notes. Draw a quick sketch, write a big headline and then give a bit more detail in the caption.

Once you have an understanding of all the ideas, begin to group and label like ideas in a cluster.

If there are any repeated ideas, combine them into one.

Cluster name



Cluster name



Cluster name



Cluster name



Playback

Our last exercise was a playback, where the participants broke into small groups and asked each other questions and captured the conversation on sticky notes. Playbacks should be moments of alignment and understanding:

- Do members agree with what was presented?
- What questions do they have?
- What do they not understand?

Personas

Early Talent: Meet Alex



Alex is 22, a recent college graduate who speaks two languages and likes to travel. He has a middle-class background.

Does/Feel/Says/Thinks

- Spends time on social media
- Needs to feel an affinity to the company brand and products and resonate with the values
- Self-learner, hard worker and focused on career development
- Constantly learning and developing

Doing/Feeling/Thinking

- Reach out is either directly to the employer or through social media
- Thinking about the company culture and what it will be like to work for the company and with the other employees
- The interview process makes Alex feel anxious: his friends got their dream jobs, so he wants to have the same
- It is not all about money; it is also about the Emotional Buy-in
- The brand has to be ethical and have something to offer so he can proudly talk to his family and friends about it.

Solutions

- F2F connection is important; people buy off people
- Companies can have an “open day “— meet the person whom you can be in one year, in two years and so on; get to see the company, the people, the culture
- Social events — meet people outside the office and ask about their jobs
- Visibility into the other business departments and how they connects to their job, leading to parallel career progression
- Coach before the interview to know what to expect and what is coming, perhaps a video explaining what to expect and who will he meet
- Post-interview feedback — give feedback on what they can improve on, so they have a positive experience; converts to walking billboard for your company

Niche Talent: Meet Imogen



Imogen is 28 years old, lives in Shoreditch, wears headphones constantly and wishes to go to Cambodia. She is a machine learning expert.

Does/Feel/Says/Thinks

- Wants to make a difference and work for a responsible business
- Shares Generation Y traits
- Wants to love her job and work flexibly, be autonomous, take the work with her
- Thinks Brexit is a bad idea and feel she has a lot of career options, as she is in demand

Doing/Feeling/Thinking

- Networks; is seeking or even speaking to a mentor
- Makes judgments about the company brand maybe the same way others do about consumer brands
- Follows the evolution of a technology or a project that might take her into her new role
- To find a job, she researches the organisation, its people and purpose
- Thinks she is in demand, and she is bombarded by recruiters, thinking, “What’s in it for me?”
- Looking for a quick recruitment process, since she doesn’t have time or patience
- Feels frustrated with the recruitment experience and probably overwhelmed, as she sees friends or past colleagues working for start-ups where their careers just took off
- When entering the recruitment process, women in the tech sector might ask themselves if this is a D&I exercise

Solutions

- Traditional approach will not work for her
- Hold meet-ups, industry events to add value to the candidate (engaging content and discussion)
- Build a community
- Engage 1-2-1 depending on personality – “people people” vs tech people

Niche Talent: Meet Alice



Alice is an account executive who lives in Manchester and has been with the company for 18 months.

Does/Feel/Says/Thinks

- Feels frustrated, as she does not know what to do regarding her career progression, how to do it or whom she needs to speak to
- Wants a promotion, needs more money and respect in her job and diversity in her work projects, but has no idea what to do about it

Doing/Feeling/Thinking

- Asking herself, “Why can’t they find me? If I am talent, why aren’t you coming to me like you came to me in the recruitment period?”
- Frustrated, patient, wants to be supported
- She tried to find a job by applying directly and by speaking to people — traditional recruiting methods
- Questioning if it is easier to go external, rather than looking internally, and starting to feel that maybe the organisation probably does not want her

Solutions

- The organisation should manage expectations and have clear roles and responsibilities, supported by a policy of what Alice should do, what is her journey and what the organisation can do for her (clarity of the process and stakeholders)
- Meet-Ups with recruiters or Webex for career advice (the HM should give insight into the role, promoting it internally)
- Technology to enable all this process to happen, be efficient and engaging

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