Whitepaper presented by GR&AT Management
17 September 2018

Artificial Intelligence (AI) will dramatically impact your industry; as much as, or even more than, the industrial revolution that changed the world. The technological advancements are here to stay and ignoring it won't make it go away. Are you, your company and employees ready for AI and its impact on your professional lives? Do you know the expectations of your employees, and better yet, are you working to meet them? If not, what should you start doing now to match, or beat, your competition?

In our recent AI survey, we asked these questions to professionals around the globe. In this whitepaper, we will reveal the surprising results, share working examples and quote expert opinions. We reveal what to watch with AI and the proposed next course of action for employers and their employees.

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I. What is AI?

A working definition of AI, as well as its key elements, is an important first step. According to Techopedia, Artificial intelligence is a branch of computer science that aims to create intelligent machines. It has become an essential part of technological advancements in almost every industry worldwide.

Research associated with artificial intelligence can be highly technical and specialized. At the core of AI is the need for skilled programming knowledge that teach computers to: reason, problem solve, perceive, learn, automate, plan and manipulate and move objects on command.

Knowledge engineering is a core part of AI research. Machines can be programmed to act and react like humans, but only if they have been programmed with an abundance of information relating to the human world. Artificial intelligence must have access to objects, categories and properties - and possess relations between all of them - to implement knowledge engineering. Initiating common sense, reasoning and problem-solving power in machines is a difficult and sometimes tedious task.

Machine learning is also a core part of AI. Learning without supervision requires an ability to identify patterns within streams of inputs.

Whereas learning with adequate supervision involves classification and numerical regressions. Classification determines the category that an object belongs to, for the machine learning purposes. Numerical regression deals with obtaining a set of numerical input or output examples, thereby discovering functions that will enable the generation of suitable outputs from the respective inputs. Mathematical analysis of machine learning algorithms and their performance is a well-defined branch of theoretical computer science, often referred to as computational learning theory.

Machine perception deals with the use of sensory inputs to deduce the different aspects of the human world; while computer vision is the power to analyze visual inputs with a few sub-categories such as facial, object and gesture recognition.

Robotics is also a major field related to AI. Robots require programmed intelligence to handle tasks such as object manipulation and navigation, along with the sub-categories of localization, motion planning and mapping.

II. Foreseeable Challenges

Several challenges arise when discussing the broad topic of Artificial Intelligence in business. First is the requirement of a highly specific analytical and programming skillset within the workforce, for the short-term. However, as the demand for AI increases, so does the demand for this specific skillset

and thus, could exceed the available supply. We are foreseeing a short-term gap which will push these specialized skills up in cost.

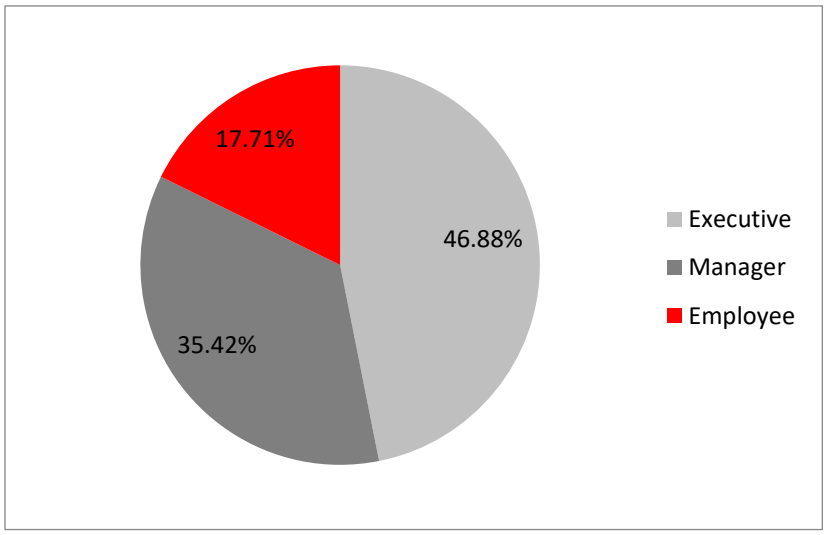
Secondly, AI as technology is only one part of the innovation equation. A company will also need to consider who will lead change management and training of staff to develop the skills required to work with AI. Not all professionals will be required to learn programming skills, but an adaptability to change and willingness to understand and work with AI will be necessary.

Finally, as an existing workforce cannot completely be fired or re-trained overnight, companies will need to strategically consider who will need what training, and at what time and cost. We predict it will be many decades before AI is fully consumer grade and requires no training at all. In the meantime, adequate training and conversion will have to be managed by the organizations who wish to succeed in this new age of artificial intelligence.

III. Survey Results

a. Respondents

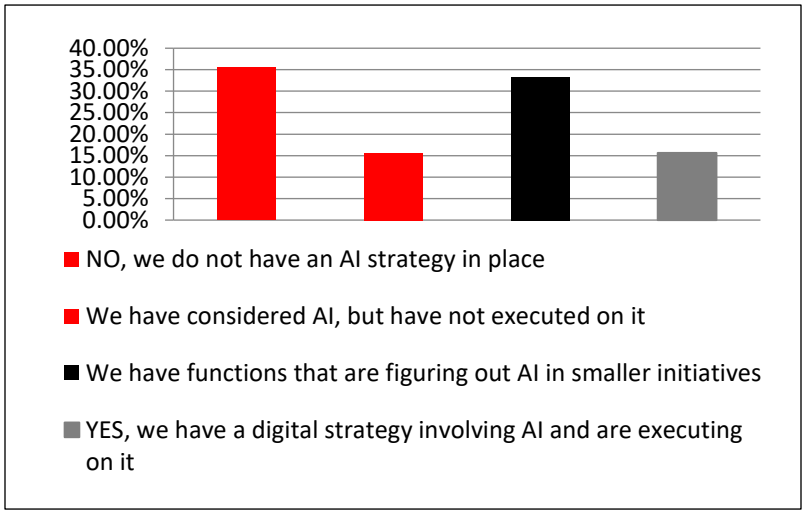
Our survey, "Is your workforce ready for AI?" received 96 respondents from across the world and of different industry backgrounds and professional levels. However, it must be noted that 82.3% of the respondents identified themselves as managers or executives while only 17.7% of the respondents classified themselves as employees. It is important to make this clarification as we believe the results are quite possibly colored by the distribution. It also indicates that a follow-up survey could be useful when focused on the differences between organizational staffing levels.



b. Company Readiness

The respondents were asked about how prepared their organization was for a future with AI. Over 51.05% of the respondents stated that their company had not yet engaged in AI activities: NO, we do not have an AI strategy in place (35.42%), We have considered AI, but have not executed on it (15.63%), while only 15.63% claimed to have planned and executed on an AI strategy (YES, we have a digital strategy involving AI and are executing on it).

This clearly indicates that the future of AI is not an immediate concern for many professionals. Although a decent number of companies appear to be taking the innovative lead, likely to utilize AI as a differentiator that could strengthen and improve their competitive position and bottom line.

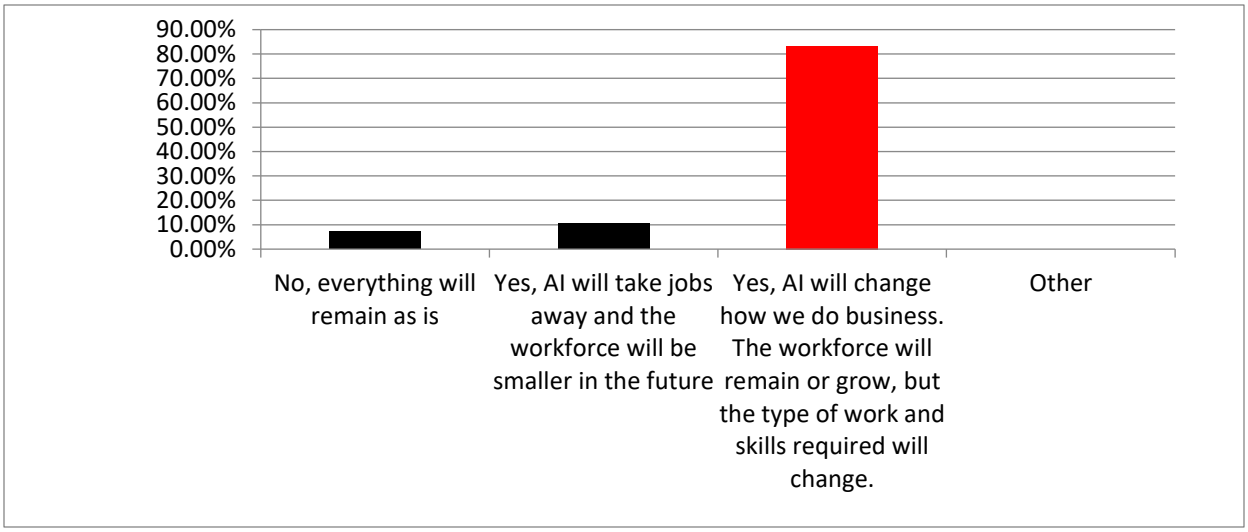


c. Impact on the Workforce

The responses to the question "Do you believe AI will impact the workforce in your company?" follow and pushed us for deeper analysis with experts.

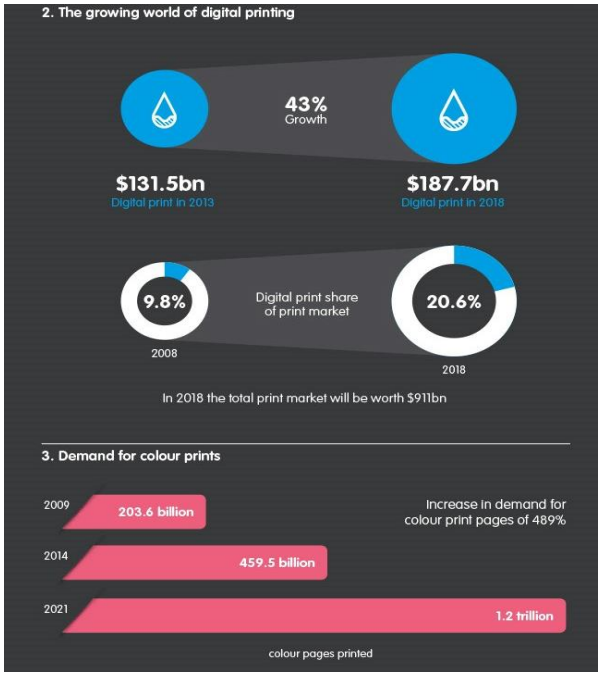
With 83.33% of respondents believing AI would positively impact the job market, and assuming changed job skill requirements, the attitude towards AI looked very positive. Without making judgement, noting that 82.3% of the respondents are managers and executives, we wonder if that could have impacted the positive rating on this question.

Further Joakim Everstin, Futurologist, Chief Innovation and Chief Technology Officer at Snowfall remarks: "It is surprising that the attitude towards AI is so positive and yet 51.05% of the companies have not executed on an AI strategy yet. The positive attitude is likely because of the hype around AI, and not on the actual knowledge of it. This would also explain why many have not executed on it yet."



One travel technologist we spoke to believes the positive attitude towards AI is based on travelers' hands-on experience with commercial technology innovation. From a corporate travel sentiment perspective, she called out that the introduction of Online Booking Tools (OBT) was initially met with skepticism and concern from the corporate travel community, particularly the Travel Management Companies (TMC). However, the corporate travel industry followed the standard innovation adoption curve. It has come to rely on and thrive under the more operational and efficient booking processes. If we look back at history, and allay some of the skepticism, perhaps the industry could lean more towards the early majority side of the innovation adoption curve, rather than towards the late majority or laggards, driven by traveler adoption and experience.

"Perhaps there is some truth to both." As Glenn Wastyn, MD GR&AT, elaborates further. "Indeed, as with other industries, the fears of technological disruption have proven to be exaggerated and sometimes even completely wrong. The Harvard Business Review from March 2016 clarifies how KODAK had invented the first digital camera in 1975 and did not push the technology out of fear of losing their lucrative analogue photography business.



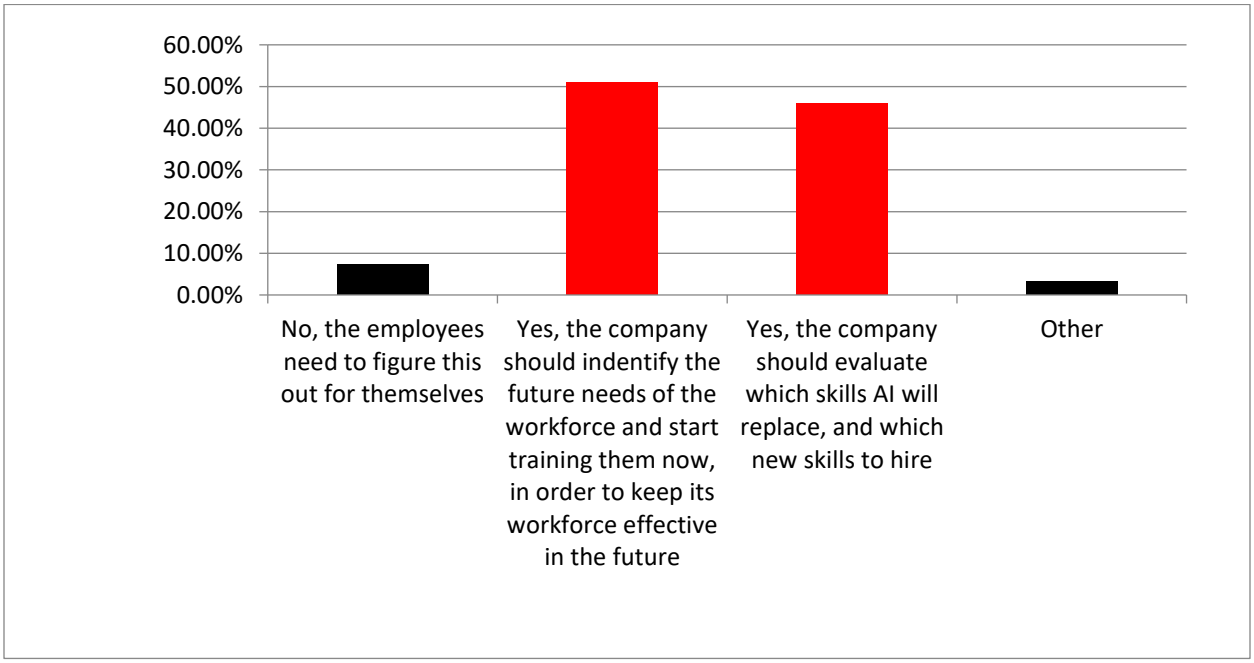
Source: www.digitialprinting.co.uk

After a miraculous turnaround in 2000 they became a world leader and by 2010 became 4th in the inkjet-printer market. The digital printing market has been growing ever since. (see infogram) Regretfully, Kodak was not so successful in anticipating the rise of the smartphones, when photos could be stored abundantly and cheaply."

d. Company Responsibility

In the survey, multiple answers were allowed when asked who was responsible for integrating AI and how. Although most respondents believed the company itself is responsible for preparing the workforce, there was an equal split between how that might be achieved. Just less than half believed that by firing and replacing staff (45.83%) would be their next move, and slightly more than half believed positively that training the workforce was the best way to successfully integrate AI measures (51.04%).

A unique skillset will be required with the rise of AI in business and increase in demand for this skillset will likely follow. This might create a gap between supply and demand thereby leading to the rising cost of such skills. Moreover, we believe that IT skills are often already a bottleneck for many companies in skills and access. So, replacing or hiring specialized AI skills will be a challenge and thus, training seems to be the more strategic approach.



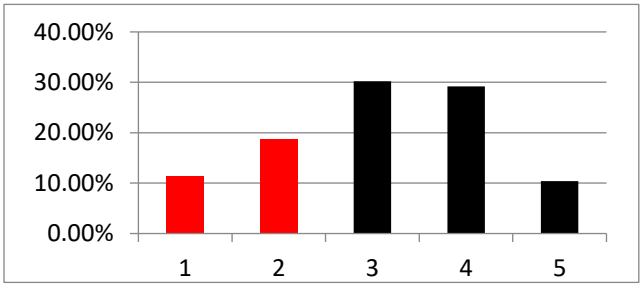
Case in point, Airbnb is running its own internal university-style program to teach data science classes, following Google's training model. This was reported by Techcrunch in May 2017 and underscores that not every employee needs to reach an expert level of IT skills, but everyone should be able to

enhance their adaptability to technology. We will address, later in this whitepaper, what skills are required for an integrated future with AI.

e. Confidence in the Organization

Although it was clear that the workforce expects the company to take responsibility, we surveyed how confident these employees were that their companies would do so.

The majority, at 83.3% of the respondents, answered that the organization should take on the responsibility (scores 3, 4 and 5), but less than a third (30.21%) had confidence that their company would do so (scores 1 and 2).



Glenn Wastyn adds, "Companies have to deal with this very strategically. For larger companies, especially those in countries with strong unions, it will be very difficult to fire and replace large parts of their organization. Therefore, it's advised that companies take a long-term approach to their training and implementation programs. This will allow them to maintain as much of their work force as possible. This is advantageous from a cost perspective, but also from a people management, change and crisis management perspective."

Claude van Beveren, CEO of Tweddle Belgium & Luxemburg adds, "The feeling of confidence may also be linked to the unknown fear of what AI will bring. We have seen a clear distinction between the age groups within our organization as they relate to tech innovation. For experienced staff over 50 years old, at times the technological advancements seem harder to master; while the younger generations adapt quickly, but often lack the business experience to go along with it. It is a fine line to be adept at both. Thus, we are taking responsibility to deliver both, by matching skills with experience, in order maximize our productivity and ultimately please our customers."

f. Understand and Complement AI

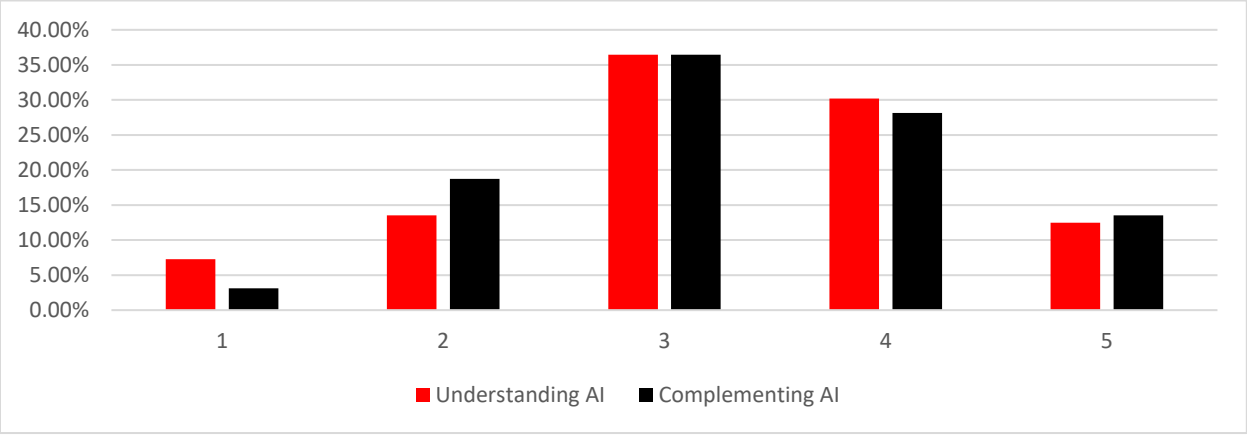
During our preliminary research and expert interviews, it became apparent that AI will require employees to develop two very distinct and important capabilities.

First is the ability to understand, learn and engage actively with AI. Depending on the job role and expertise, this might require statistics, programming, data science, data architecture, data cleaning, research, data sourcing (Garbage in – Garbage out), and the more simplistic tasks by asking the right questions, and provide analysis by properly interpreting the answers (the difference between correlation and causality).

But, on the other hand, experts believe that the "human factor" will become increasingly important. Glenn Wastyn calls it "Artificial Intelligence with a Human Interface."

Albert Mehrabian suggested that only 7% of our (emotional) communication resides in the actual words we use. The rest is up to the intonation and timbre (38%) and more than half (55%) up to body language. Perhaps you can recall your last misunderstanding that occurred via email or text (thereby missing out on the body language element). Under these terms AI's response, although perfect in content, might only provide 7% the actual message and miss its meaning altogether. It will be up to the humans to build on that 7% for an adequate and accurate message delivery.

When asked to rank (on a scale of 1 to 5) confidence in their own skills to understand or complement AI, the respondents were positive with averages of 3.27 for understanding and 3.30 for complementing. However, a relevant distinction was visible on the lower spectrum of the answers, whereas more people thought they were likely not to understand AI (7.29 average for the low answer of 1) versus being able to complement it (3.13 average for the low answer of 1).



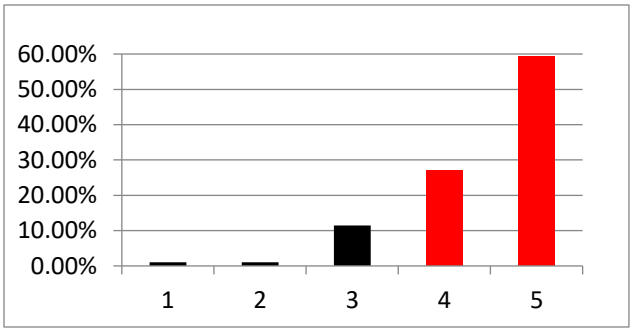
Joakim Everstin is clear: "Ultimately it is the human skill that is going to be crucial. When AI becomes consumer grade, the required specialty skills for working with AI will no longer be needed. It's like driving a car. In the early days, you needed experts to build cars. Then people needed to learn how to drive and earn a license. In the future, cars will drive themselves. Similarly, I believe it to be with AI. People will use AI, but won't need the expert training to use it because of its seamless integration. Think of it like an exoskeleton. People with an exoskeleton can carry more, and faster, but they still command the exoskeleton. AI will just make humans more efficient at doing their job, without the boring heavy-lifting."

Claude van Beveren added, "Indeed, in the short term we are still looking for a small group of dedicated data scientists and linguists. But for the majority, in the future, we will be focusing on hiring for attitude, communication skills, the ability to problem solve with a willingness to accept and adapt to change."

Steven van Belleghem, author, keynote speaker and entrepreneur as co-founder of Nexxworks and Snackbyte, also sees an increase in the importance of the human interface. (Note: watch his insightful TED Talk here). According to Steven, AI is great at solving everything WITHIN the script, but humans are better when going off script: those that require creativity, outside-the-box thinking and problem solving.

g. Willingness to learn

Our final question focused on the willingness to adapt, learn and prepare for the future. The results were overwhelmingly positive with 86.46% of the respondents showing a great willingness to learn: with 27.08% scoring a 4 and 59.38% choosing the highest, at 5.



Thus, the willingness is there, but now companies must deliver the training and skillsets to match. To start, identify which roles will be needed within your organization and who has the propensity for growth. You will need different levels of understanding, and certainly everyone involved will need the right attitude. HR will have the most important function in this area, not only for training, but also in the hiring process to select those with the right attitude and ability to adapt to change, over pure work experience.

IV. Conclusion

Companies across the globe have their jobs cut out for them when integrating AI. It's a force driving change and 15.63% of the competition is already on board and using it as a strategic differentiator. The workforce is quite eager to adapt and enhance their skillsets to work with AI, but the results prove that they count on their company to provide them with the proper training and support to embrace this change.

Will your organization step up the plate?

V. Next steps

Based on the above results, GR&AT Management is primed to help your executive team analyze how AI will impact your business, and your workforce. We can establish a first course of action, setup and provide training programs to close the short-term gaps, as well as advise on strategically leveraging skillsets to maximize the return on your long-term investment.

VI. Who is GREAT Management?

GR&AT empowers your future with effective, innovative, and professional consulting and corporate training, to spur growth, foster innovation and build knowledge-sharing within your business environment. We help to conceptualize, build, redesign and support market leaders through business transformation and business development.

We are Consultative Experts and Keynote Speakers on Business Transformation, Change and Crisis Management, Business Development, Strategy, Personal Branding, Social Media, Thought Leadership, Digital and Travel Technologies, Wearables and Mobile Technology, Virtual and Augmented Realities, Big Data and AI, Public Relations, Marketing and Communications, Multi-Generational Communications, CSR and Sustainability and Cultural Differences.

For more information, please contact us at: info@greatmanagement.biz and visit our website: www.greatmanagement.be

VII. Acknowledgements

We would like to thank the respondents to our AI online survey and express our thanks to our experts, for sharing their insights and predictions.

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