

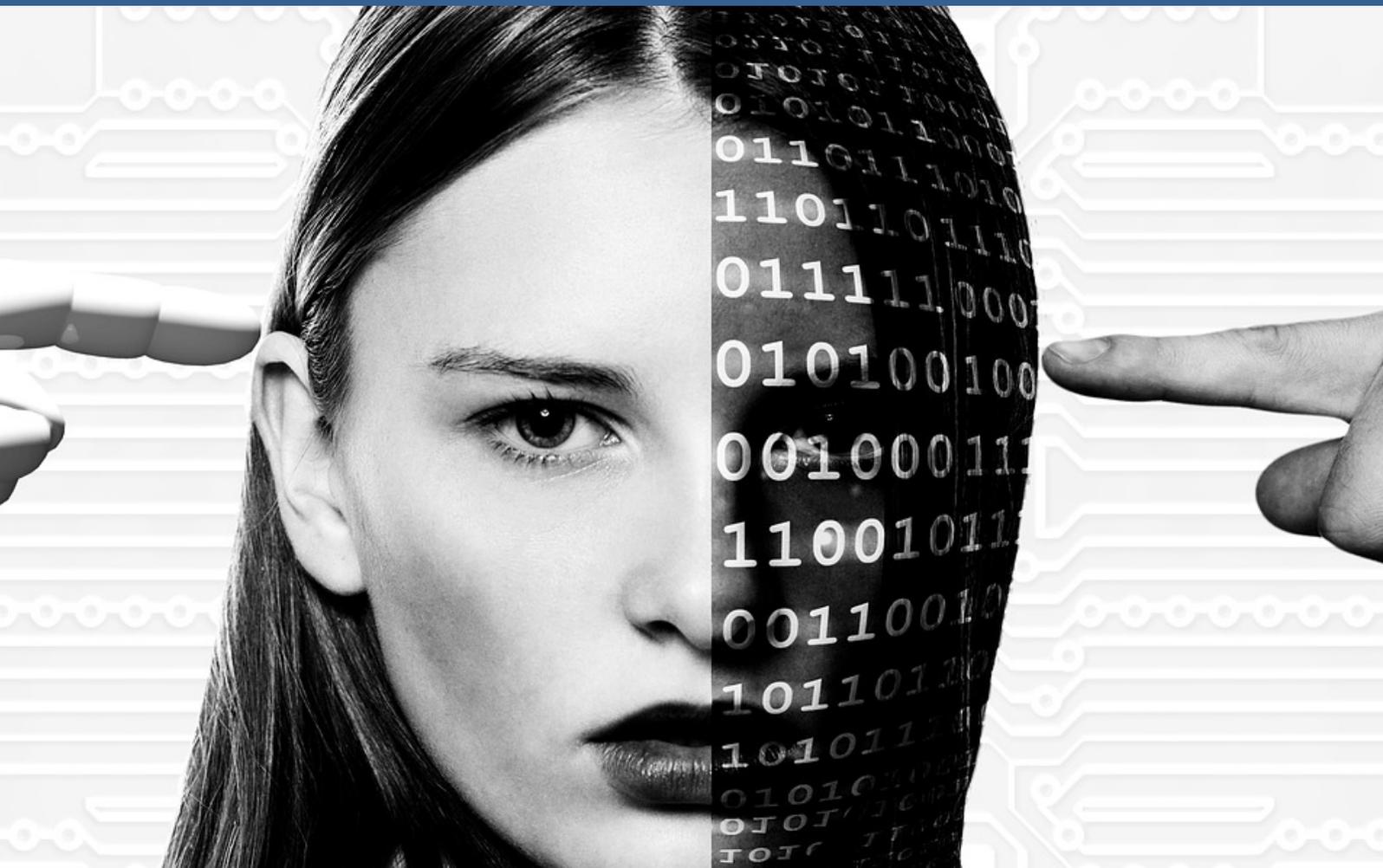
# What is Human Intelligence in the Age of Artificial Intelligence?

***Gary Peacock & Stephen Kozicki***

*Author of Managing B2B customers you can't afford to lose*

\$9.99

*Why Artificial Intelligence (Ai) will enhance not replace Human Intelligence (Hi).*



What is Human Intelligence in the Age of Artificial Intelligence?

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# Introduction

Human Intelligence, what is it and how can it help?

## **Amara's law:**

We tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run.

Ray Amara, past president of The Institute for the Future

Newspapers, magazines and the web are filled with stories of artificial intelligence (Ai). How computers and robots will steal all the jobs.

In the long run, there is no doubt Ai will automate jobs that are repetitive, well-structured and based on following rules. But Human Intelligence (Hi) will be needed. What do we mean by Hi?

So, let's get real, Hi = Social Intelligence + Creative Intelligence. The terms social and creative intelligence come from some complex academic research (*The Future of Employment, by Frey & Osborne*) that explores jobs and tasks and calculates the probability they can be replaced by robots or computers.

The research concludes:

"... while sophisticated algorithms and developments in machine learning build upon big data and now allow many non-routine tasks to be automated, occupations that involve **complex perception of manipulation tasks, creative intelligence tasks, and social intelligence tasks** are unlikely to be substituted by computer capital over the next decade or two."

For most organisations the barriers to computerisation are social intelligence and creative intelligence. We have combined these into the single term: Human Intelligence or Hi.

**Hi = (Social Intelligence) + (Creative Intelligence)©**



**You realise that there is no free will in what we create with AI. Everything functions within rules and parameters.**

Clyde De Souza

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## Social Intelligence

Social Intelligence is important in a wide range of work tasks such as negotiation, persuasion and care.

“While algorithms and robots can now reproduce aspects of human social interaction, the real-time recognition of natural human emotion remains a challenging problem, and the ability to respond intelligently is even more difficult.”

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## Creative Intelligence

The psychological processes underlying human creativity are difficult to specify. Creativity is producing ideas or artefacts that are novel and valuable.

One process of creation is fresh combinations of familiar ideas. The challenge is finding a method of creating combinations that make sense. Generating novelty is not difficult because computers can create paintings or compose music. The challenge is stating our creative values sufficiently clearly that they can be programmed.

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Adapted from: Working Paper, The Future of Employment

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If we explore deeper what comprises the bottleneck of Social Intelligence, we see that they are soft skills that Ai can't copy.

Soft skills where the cold touch of the robot can't replace the warm touch of the human.

Bottleneck to Computerisation	Variable
Social Intelligence	Social perceptiveness
	Negotiation
	Persuasion
	Assisting and caring for others
Creative Intelligence	Fine Arts
	Originality

While the research describes Social Intelligence as a bottleneck to computerisation, in a world of Ai we suggest Social Intelligence is your source of competitive advantage.

So, consider how can you build skills in: Social Perceptiveness, Negotiation, Persuasion and Assisting Others?

# What is Social Intelligence?

Social Intelligence is social perceptiveness, negotiation, persuasion and caring for others. Big parts of what it means to be human.

Social Intelligence	Social perceptiveness	Being aware of others reactions and understanding why they react as they do
	Negotiation	Bringing others together and trying to reconcile differences
	Persuasion	Persuading others to change their minds or behaviour
	Assisting and caring for others	Providing personal assistance, medical attention, emotional support, or other personal care to all the searchers co-workers, customers or patients

## Social Perceptiveness

Social perceptiveness simply means: being aware of others reactions and understand why they react as they do. Recognising human emotions is tough. Anyone with teenagers knows how hard it is to decode a look or a word. Try this two minute video showing emotions:

## Do you recognize all 7 basic emotions?





If recognising emotions in our family is tough, how about recognising emotion in people of different cultures. This five minute video explores deeper recognising emotions:

[Are there universal expressions of emotion](#)

VIDEO

Paul Ekman spent his life studying how we express emotions with our faces. For each emotion there is a physiological response, for example what you do with your eyebrows or your mouth. Ekman recognises six basic emotions.

1. Fear
2. Anger
3. Disgust
4. Sadness
5. Enjoyment
6. Surprise

[www.atlasofemotions.org](http://www.atlasofemotions.org)

WEBSITE

As you understand more about how humans recognise the difference between fear and disgust, or the difference between surprise and enjoyment, you'll understand why Ai will struggle to recognise emotions.

But recognising emotions is just a piece of the puzzle. Think back to your teenager, even if you recognise the emotion, then why are they reacting like that? How can Ai understand the mixture of hormones and thoughts and experiences that produce your teenager's emotion.

Humans are good at understanding people's reactions because they are sensitive to social cues. Social cues from a person are more than a raised eyebrow or slouching shoulders. It may be a sequence of cues from a person. But not just cues from the person, but also cues from the environment too.

For example, the other people around. Who are they, what are they saying and feeling, what are they expecting?

And why does Ai find this so hard to copy? Well, because even humans are at best good, not perfect. It's not a science, not an equation, it's an art. Each person is a complex combination of genetics and experiences.

When we try to understand why a person is reacting in a certain way, what do we have? One mixture of genetics and experience (you), trying to understand why another mixture of genetics and experience (them) is responding to a collection of genetics and experiences (a crowd). An imperfect process that's difficult to explain and difficult to copy, even for humans.

**Your intellect may be confused,  
but your emotions will never lie  
to you.**

Roger Ebert

## Negotiation

If you think all negotiations need humans, have a look at the Automated Agents Negotiating Competition which has been running since 2010. In 2010, the competition started with two party negotiations (bilateral). But after a few years improvements were getting smaller so the competition introduced multi-party negotiations (multilateral).

Then, they found they needed to change methods because two party methods were not effective or efficient for multiparty negotiations.

[Automated Negotiating Agents  
Competition \(ANAC\)](#)

WIKI



Automated agents can already do some negotiations.

Consider when you purchase books online, you will see combinations of books offered. Buy books A and B together and get 10% off, or buy books A, B and C and get 15% off. Or for delivery in three days pay \$15 delivery and for delivery in 14 days pay \$7.

This is an agent negotiating with you. And the more often you buy, the more it learns about you. You bought two books at 10% discount last time, perhaps this time the agent will try two books and only 9% discount. Or you did not buy three books at 15% discount, perhaps this time the agent will try three books and 17% discount.

An automated agent can generate many offers fast and can evaluate a response to them fast. For example, if there were seven variables in a negotiation and you agreed to respond to each offer with a like or dislike to each variable. By varying increments on each variable an agent could quickly determine your priority for each variable.

As long as you were honest.



**A lack of transparency results in distrust and a deep sense of insecurity.**

Dalia Lama



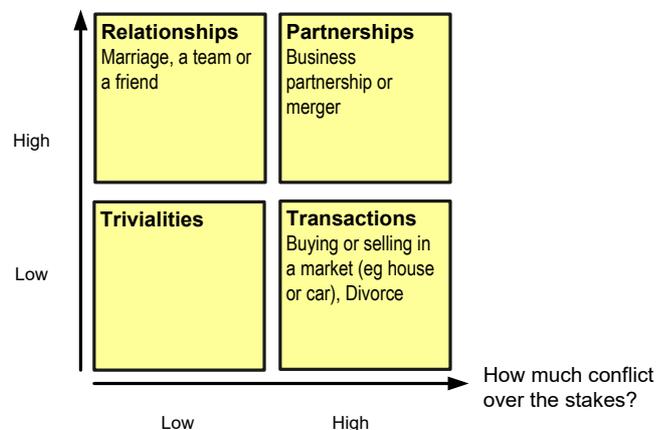
‘As long as you are honest’ gives us a clue when you need human intelligence for negotiation. In negotiations when you need to understand other parties motivations and emotions.

AI cannot tell when another party is lying or trying to deceive. Also, as we have already discussed AI cannot recognise emotions or understand reasons for emotions. So, any negotiation with much emotion needs a human.

Richard Shell (1999) created a negotiation framework that maps perceived conflict over stakes on one axis and perceived importance of future relationships on the other axis. One part is about the outcome of the negotiation, and the other part is about the relationship.

## Situational Matrix

How important is future relationship?



Adapted from Shell (1999), pp.120

From the diagram you can see that there are four possible negotiation situations. So, in any given negotiation the first step is to diagnose the situation.

In a typical **relationships** situation, you consider the future relationship important but have little conflict over the stakes. In contrast, in **partnerships** you want to have a good relationship in the future but you have conflict over the outcomes. Neither situation is appropriate for Ai negotiation because Ai is unable to assess the current relationship or the effect of any proposed packages on future relationships. When relationships are important in negotiations read the great book [The Creative Negotiator](#) by Stephen Kozicki.

When relationships are less important, in Trivialities or Transactions, Ai could negotiate for us.

For negotiation situations you classify as **trivialities**, when future relationships are not important and there is little conflict over the stakes, the negotiating strategy is to avoid negotiating. This simply means giving the other party everything they want and taking only that which comes without much effort.

For **transactions**, future relationships are not important and you have high conflict over the stakes; the appropriate negotiating strategy is to compete – to get as much as possible. For example, if you are buying a car, your future relationship with a car salesman is unlikely to be important.



However, remember in organisations sometimes ‘what goes around, comes around’. For example, how would you feel when the person your Ai aggressively defeated in a negotiation three months ago has just been appointed your department head?

### Persuasion

Persuasion is persuading others to change their minds or to change their behaviour. Ai struggles to help with persuasion because to persuade someone you need to understand why they have a mindset or why they repeat a behaviour. Their reasons are usually a mixture of logic, which Ai handles well, and emotion, which Ai handles badly.

Ai can recognise some emotions, mainly by analysing text.

[Top Five Emotional Sentiment Analysis APIs for Understanding User Sentiment Trends](#)

ARTICLE

Analysing sentiment from text can be useful to detect trends in sentiment. For example, when sentiment turns from positive “great service” to negative “frustrating” or “angry”.

Ai could detect these changes and send an alarm so a person could call or email this person. Without a person intervening, Ai cannot persuade in most cases.

**The mind is no match with the heart in persuasion.**

Everett Dirksen

Some ideas on how to use sentiment to improve user experience are given in this article.

[Sentiment Analysis:  
How it works and how to use it](#)

ARTICLE

**Assisting and caring for others**

Providing personal assistance, medical attention, emotional support, or other personal care to co-workers, customers or patients are just some needs for the warmth of a human hand or human voice.

With the forthcoming increase in over 65s, the demand for carers will exceed supply.

Ai may help make some tasks more efficient to give carers more time for the human touch.



Ai may create the most accurate diagnosis and effective care plan, but this may not be the solution to which the patient will best respond. This article shows how robots could help to deliver elder-care.

[How robots could help bridge the elder-care gap](#)

ARTICLE

From the article, you can see that many older people are open to the use of robots in their care – but not always for the tasks you would expect.

There are three main types of robots to assist in social care.

### **Physical Assistance Robots (PAR)**

These perform discreet tasks, like lifting and carrying, to support people.

### **Socially Assistance Robots (SAR)**

These can help people through individual non-contact assistance, such as convalescence, rehabilitation, training and education.

### **Cognitive Assistance Robots (CAR)**

These support users by performing cognitive tasks. Have potential for people with Dementia and Alzheimers.



[Artificial Intelligence & Robotics in Social Care](#)

ARTICLE

For robots to interact better with humans, they must duplicate some subtle cues humans give. For example glancing in the direction you are going to move.

- [1. Gaze into my eyes](#)
- [2. Face of Robotics](#)

ARTICLES

When assisting and caring for others, Ai can't do many things. But, don't dismiss Ai. For example, people are more comfortable talking to a robot instead of a real person – like 'Woebot', a chatbot who helps people monitor their mood. Using cognitive behavioural therapy, Woebot asks people how they're feeling and what is going on in their lives. Talking about mental health and wellness and sending videos and other useful tools, depending on user's needs.

# What is Creative Intelligence?

Creative intelligence is producing new ideas or objects, through fine arts or originality.

Boden (2003), says creativity is coming up with ideas or objects that are novel and valuable.	<b>Ideas</b>	<ul style="list-style-type: none"> <li>Concepts</li> <li>Poems</li> <li>Musical compositions</li> <li>Scientific theories</li> <li>Cooking recipes</li> <li>Jokes</li> </ul>
	<b>Objects</b>	<ul style="list-style-type: none"> <li>Paintings</li> <li>Sculptures</li> <li>Machinery</li> <li>Pottery</li> </ul>

Based on: The Future of Employment, Carl Benedikt & Michael Osborne

Creative Intelligence consists of two groups, Fine Arts and Originality.

<b>Creative Intelligence</b>	Fine Arts	Knowledge of theory and techniques to compose, produce and perform works of music, dance, visual arts, drama and sculpture
	Originality	The ability to produce unusual or clever ideas about a topic or situation, or to develop creative ways to solve a problem



**Curiosity about life in all of its aspects, I think, is still the secret of great creative people.**

Leo Burnett



## Fine Arts

Consider fine arts, for example a painting. We can classify different brushes and different colours, and even different textures. Then all we need to do is identify a sequence and Ai could produce a copy of an existing painting. How about a copy of Leonardo De Vinci's 'Mona Lisa'? It's so good that six million people a year still go to see it.

We know what the final product looks like, but what was the sequence and what were the brushes used. No one knows, perhaps an expert painter could produce an acceptable copy. But even an expert painter would use much unspoken or tacit knowledge.

And then, just like social intelligence, there is emotion again. The best music, dance, visual arts and drama evoke emotion. Have a look at a few examples:

Dance	<a href="https://youtu.be/H52POzHe4SY">https://youtu.be/H52POzHe4SY</a>	5 minute video
Music	<a href="https://www.youtube.com/watch?v=X22-EXW0hOM">https://www.youtube.com/watch?v=X22-EXW0hOM</a>	5 minute video
Visual Arts	<a href="https://youtu.be/UFrqngK_iKw">https://youtu.be/UFrqngK_iKw</a>	5 minute video
Drama	<a href="https://mic.com/articles/64427/famous-films-you-never-knew-were-based-on-shakespeare-plays#.lxpoBMPmB">https://mic.com/articles/64427/famous-films-you-never-knew-were-based-on-shakespeare-plays#.lxpoBMPmB</a>	Article & videos



## Originality

Some parts of creativity involve making combinations; ‘unfamiliar combinations of familiar ideas’. Ai can easily and quickly create combinations and some combinations may be surprising?

The challenge is humans can’t explain which surprising combinations – inventions or jokes or items – are useful or interesting.

Film maker David Lynch colourfully describes the process of searching for ideas.

**Desire for an idea is like bait. When you’re fishing, you have to have patience. You bait your hook, and then you wait. The desire is the bait that pulls those fish in – those ideas.**

**The beautiful thing is that when you catch one fish that you love, even if it’s a little fish – a fragment of an idea – that fish will draw in other fish, and they’ll hook onto it. Then you’re on your way. Soon there are more and more and more fragments, and the whole thing emerges.**

**But it starts with desire.**

David Lynch, Catching the Big Fish, 2016.

## In business we need Originality

We need originality, so how can we get more? Highly creative people are good at seeing connections. So, a simple way is to practice making connections. For example:

[Creative Thinkers](#)  
[Exercise Book](#)

BOOK

**When you train your ability to make connections, you strengthen the underlying mechanism that helps you think creatively. Seeing and making connections is a creative-thinking skill. By identifying and training this skill deliberately – over and over again through exercises – you enhance your ability to think creatively.**

Dorte Nielson & Katrine Granholm

[How Good Are You at](#)  
[Creative Thinking](#)

BLOG

Another way is to use a tool like the 'Idea Pack', which combines provocation and process to generate creative ideas. Provocation is using something to trigger your thinking. For example, lets say you were working on how to get more sales from your biggest customer. In a typical business meeting your team would probably produce 5-7 ideas and these would be the same ideas they always suggest.

Try something different and tell them to produce as many ideas as possible. Force them to make fresh connections using ideas after they see three elements on a card: a quotation, a picture and some questions.

Before they do this, let me warn you the brain is lazy. So, when someone sees the card and sees no obvious connections, they will say, "there are no connections".

Managers need to maintain the creative tension the brain feels when it cannot see an obvious connection. When you keep the creative tension, the brain will eventually give you a connection.

Imagine the brain saying, "I can't see an obvious connection. But, how about this...". Typically these are unexpected connections and unexpected ideas.

Try it with this picture.



Set an alarm for 60 seconds and try to generate 10 ideas to get more sales from your top customer.

---

**How to get more sales from your top customer**

---

1

2

3

4

5

6

7

8

9

10

---





As well as provocation, you need a good process too. One process that works well for business problems is to collect diverse people in a room and put them under time pressure. For example, this time pressure could be four specific activities each with 90 minute strict deadlines.

[Solve Your Impossible Problems](#)

LINK

Activities need to include: picking a problem, understanding the problem, generating many possible solutions and finally picking the top three ideas to implement. With a good process, you can generate between 30 and 120 ideas and then choose the top three ideas in just one day.

**Young ideas need time to grow and take root before you can judge their true worth.**

Dave Allen, Matt Kingdon, Kris Murrin, Daz Rudkin, ?What if!

Some might describe this as hot-housing. Time can be used in a different way: **greenhousing**. [?What If!: How to Start a Creative Revolution at Work](#), describes greenhousing as: nurturing fledging ideas until they are big enough to look after themselves. Here we plant an idea then provide time, to let the idea slowly grow and flourish.



**A new idea is delicate.  
It can be killed by a sneer or a yawn;  
it can be stabbed to death by a joke  
or worried to death by a frown  
on the right person's brow.**

Charles Browder

As you can see whether we hot-house or greenhouse, the process is not well defined, so Ai will not be able to replicate it. Ai cannot easily make unusual connections, but can create combinations.

Without some human insight these combinations will simply pile up more and more useless combinations. Paul Daugherty and James Wilson in their 2018 book, [Human + Machine: Reimagining work in the age of AI](#), agree.

They suggest four things only humans can do:

- Lead
- Empathise
- Judge
- Create

This reinforces the point to put humans in the loop. Human skills are growing in importance as implementation of Ai solutions are becoming more widespread.

Understanding the unique capabilities of both humans and machines and how they can best collaborate is critical as work is being redefined.

[AI, robotics, and automation:  
Put humans in the loop](#)

ARTICLE

**The relationship between human intelligence and artificial intelligence will necessarily be one of symbiosis. The challenge and potential of explaining this co-evolutionary future is the biggest story of the next century and one in which a closeness in development velocity is a necessity.**

Bryan Johnson

# What about Intuition and Insights?

Can artificial intelligence help with intuition or insights? And what is the difference between them?

Intuition and insights are closely related to creativity. Are these both just creativity?

What is the difference between insight and intuition? Expert Gary Klein explains clearly in his excellent book:

[Seeing What Others Don't: The remarkable way we gain insights](#)

BOOK

**Intuition is the use of patterns they've already learned, whereas insight is the discovery of new patterns.**

Gary Klein

Nobel Prize winner, Daniel Kahneman worked with Gary Klein to answer: When can you trust a self-confident professional who claims to have intuition? In his book:

[Thinking, Fast and Slow](#)

BOOK

Kahneman explains when two conditions are satisfied for acquiring a skill:

1. An environment that is sufficiently regular to be predictable.
2. An environment to learn those regularities through prolonged practice.



Without valid cues, intuitive 'hits' are due to luck or lies. Kahneman caustically dismisses other claims and gives us a rule:

*Claims for correct intuitions in an unpredictable situation are self-delusional at best, sometimes worse.*

*If you find this conclusion surprising, you still have a lingering belief that intuition is magic. Remember this rule:*

***Intuition cannot be trusted in the absence of stable regularities in the environment.***

So, human intuition depends on **valid cues** in an environment sufficiently regular to be predictable. Also, an environment to learn this through prolonged practice. What's surprising is this sounds like an ideal environment for Ai. Because Ai works well with **valid cues** in an environment to learn regularities and Ai can easily perform **prolonged practice**. So, counter-intuitively Ai may be able to replicate some human intuition.

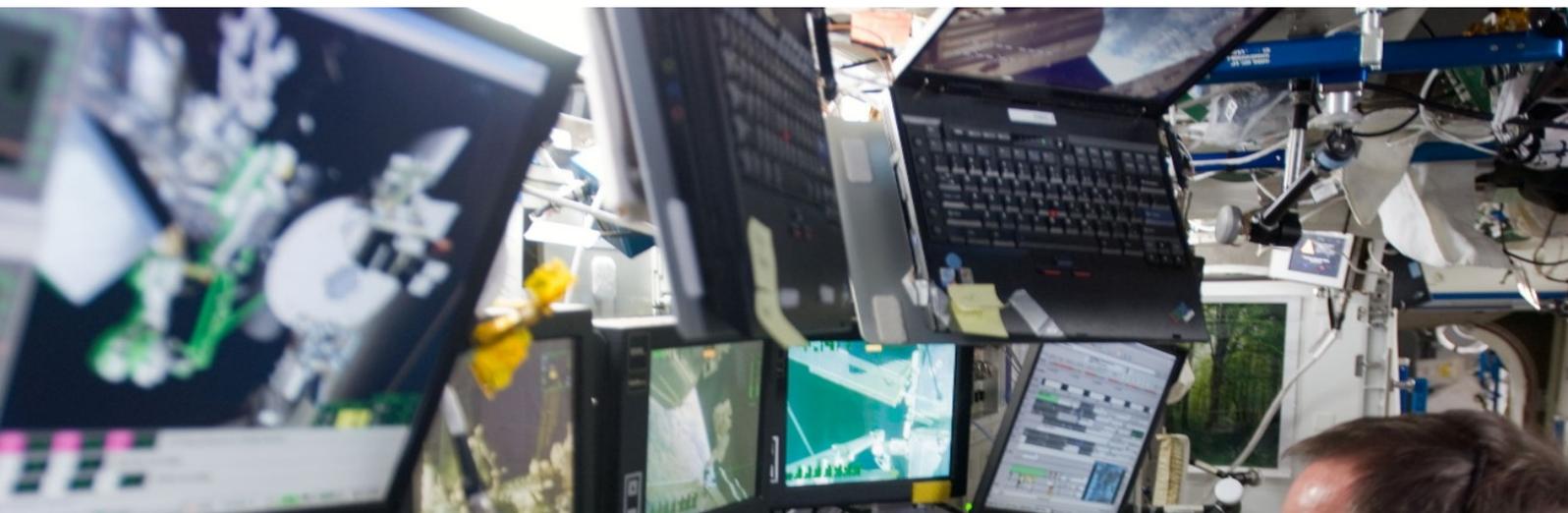
What's the limit on Ai? Can Ai recognise **valid cues** for all humans, because some humans can't recognise the **valid cues** they use. A story in Gary Klein's book illustrates this well.

*In 1990 Navy officer Michael Riley, off the coast of Iraq was monitoring radar showing US airplanes returning from raids flying towards his ship on their return to US Air carriers. These US planes were often flying 'dark' without their 'Identity Friend or Foe Systems' switched on.*

*Riley was worried about Iraqi silkworm missiles: sometimes called 'Sea Fox', it has a 1000-pound warhead and a radar beam. Ships, stand out in the radar beam like bright reflections in a car's headlight and a computer steers them into the centre of the reflection.*

*Suddenly with many blips on his radar, Riley saw one blip he thought might be a silkworm missile. If he was right, as Klein says he had 'one minute to live'; if he was wrong he would order shooting down a friendly plane. In just 10 seconds he ordered shooting the silkworm.*

*Klein's team spent hours with Riley reviewing radar footage searching for the cue that told him it was a silkworm.*





*Riley and the team couldn't find a cue. No one could find the cue. Next morning a team member realised the silkworm flew lower than normal planes. And so would not be seen on the radar screen until much further from the coast than normal planes.*

*Riley had spent weeks watching hundreds of planes appear at the normal distance from the coast. So, for him seeing this blip on the radar appear so far from the coast screamed to his unconscious brain: this is different. He was unaware of what the cue was, he just knew it looked wrong.*

**Data is a tool for enhancing intuition.**

Hilary Mason

So, when humans can't always identify valid cues how can we expect Ai to identify valid cues?

Ai is good at detecting anomalies. However, understanding which anomalies matter needs human intelligence. Sometimes where we rely on human intuition and we don't know what cues we use, Ai will make us aware of possible anomalies that could be the valid cues we use.

So, Ai can help normal people with intuition understand the valid cues and make their intuition so good it's like giving them superpowers.

# What Skills do we Need in our Brave New World?

As we move into an Artificial Intelligence (Ai) world, what Human Intelligence (Hi) skills do we need?

If Ai will automate many tasks, what skills should we invest in for the future? A good place to start is understanding which jobs are ripe for automation. Stanford Professor Andrew Ng has a rule:

**“if a typical person can do a mental task with less than one second of thought, we can probably automate it using Ai now or in the near future”.**

Why should we trust this rule? Andrew is founding lead Google Brain, former Director Stanford Artificial Intelligence Laboratory, and lead of Baidu’s Ai team of 1200 people. And who are Baidu? The Google of China serving more than 700m users: <https://www.youtube.com/watch?v=cxOdFGg3Sgs>

So, flipping Andrew’s rule we can say we should build skills that involve mental tasks that need more than one seconds thought.

[What artificial intelligence can and can't do right now](#)

ARTICLE





Writer Bernard Marr gives us some clues:

- Communication
- Empathy
- Creativity
- Strategic Thinking
- Questioning
- Dreaming

[7 Job Skills of the Future that AIs & Robots can't do Better than Humans](#)

ARTICLE

In Australia Data61 is a data innovation network that transforms existing industries and creates new ones by applying technology like robotics, machine learning and analytics software.

From Data61's 2016 report, *Tomorrows digitally enabled workforce* found four groups best explained changes in employment.

Four groups:

1. Knowledge work (including getting and analysing information, creative thinking, and problem solving).
2. Higher-level people skills (e.g. influencing, negotiating, coaching).
3. Machine and physical work (e.g. maintenance, operation).
4. Service work (e.g. caring, working with the public).

Occupations where people skills are important have grown faster than average, adding up to 45% more jobs than the average.

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With Automation, robotics and artificial intelligence these skills are more important

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creativity	complex judgement,
problem solving	social interaction
advanced reasoning	emotional intelligence

---

Executives need to equip employees with skills, knowledge and capabilities which are complementary to advanced artificial intelligence: soft skills – personal, interpersonal and organisational skills. So, over the next 10 years developing soft skills will be critical for employers.

But which soft skills? Well there are a jumble of suggestions available, however we recommend the thought leading work of P21.



Founded in 2002 as a coalition of business community, education leaders, and policymakers. P21 is an American non-profit organisation advocating for 21<sup>st</sup> century readiness for every student. P21 recognises all learners need educational experiences from cradle to career to build knowledge and skills for success in a globally and digitally interconnected world.

P21 created the 4C's framework of soft skills which has been well used and well developed:

- Collaboration
- Critical Thinking
- Communication
- Creativity

See the table below, or for extensive details:

<http://www.p21.org/our-work/4cs-research-series>

In summary, work on your soft skills because in an Ai world in a more competitive marketplace, that's what will give you a hard edge.

4C's	Plain English	Specific Skills
<b>Collaboration</b>	Work with others	Persuade: Talk, listen, question Solve conflict Negotiate
<b>Critical Thinking</b>	Analyse & judge Solve Problems	Analyse arguments Analyse systems Evaluate Data
<b>Communication</b>	Write. Listen. Talk	Persuade: Talk, listen, question Persuade: Write Persuade: Present to Groups
<b>Creativity</b>	Produce novel ideas Solve Problems	Generate many ideas Fully develop ideas Innovate: implement ideas

# Summary

In the 'Age of Ai', if you are looking to implement Ai or if you are worried Ai will replace your job, then you must understand what human skills you need.

In the Age of Ai, you need human intelligence:

$$\mathbf{Hi = (Social Intelligence) + (Creative Intelligence)©}$$

For social intelligence you need skills in social perceptiveness, negotiation, persuasion and caring for others. For creative intelligence you need skills in fine arts (music, arts, drama and dance) and originality (problem solving, critical thinking and innovation).

Don't forget human intuition and insight. With the assistance of Ai this innate ability could become your superpower.

The skills we need to focus on in the next decade are the 4C's: collaboration, critical thinking, communication and creativity.

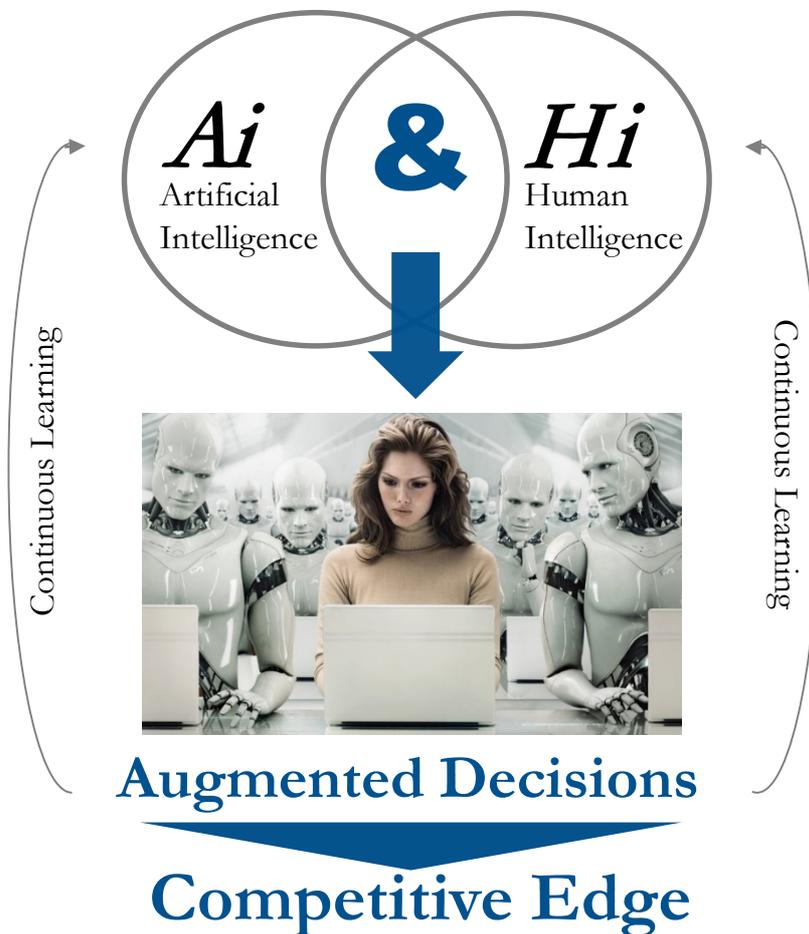
Improving these skills will give you a competitive edge – individually and as an organisation.



If you invest in human intelligence, if you invest in the 4C's then you will get the best from Ai. Combining Hi and Ai gives you the optimum outcome. In business, we call this outcome: Augmented Decisions.

Whether you are negotiating, persuading or creating, combining Ai and Hi will help you make Augmented Decisions. And making Augmented Decisions will give you the competitive advantage you need to thrive.

## Ad Framework®



**Information is a source of learning.  
But unless it is organised, processed,  
and available to the right people  
in a format for decision making,  
it is a burden, not a benefit.**

William Pollard



Intuition does not come to  
an unprepared mind

Albert Einstein

# Questions to Challenge You

1. Which human skills needed in the age of Ai do your staff possess?
2. Which skills are important for your business?
3. Which roles can Ai remove from your business?
4. How can you use Ai to upskill your staff and make your company more efficient?
5. How are the skills of your staff (now and in the future) part of your strategy?
6. Which Hi skills will provide you with a competitive edge?
7. Who in your company has intuition you can trust?
8. How can you share this intuitive skill?

# References

Agarwal, D. & Bersin, J. & Lahiri, G. & Schwartz, J. & Volini, E. (2018) *AI, robotics, and automation: Put humans in the loop*, Deloitte Global.

Allan, D. & Kingdon, M. & Murrin, K. & Rudkin, D. (1999) *What If! How to Start a Creative Revolution at Work*, Capstone Publishing Limited.

Are there universal expressions of emotion? <https://youtu.be/-hr58Yu0yDs>

Basic/Core Emotions: Ekman: <https://www.youtube.com/watch?v=rAPbyzofRHU>

Daugherty, P.R. & Wilson, H.J. (2018) *Human + Machine: Reimagining work in the age of AI*, Harvard Business School Publishing.

Ekman, P. (2007) *Emotions revealed, recognising faces and feelings to improve communication and emotional life, Revised Edition*, Henry Holt & Company Inc.

Frey, C.B. & Osborne, M. (2013) *The Future of Employment*, Oxford Martin School.

Kozicki, S. (2016) *The Creative Negotiator*, Bennelong Publishing.

Kozicki, S. & Peacock, G. (2011) *Persuading for Results*, Bennelong Publishing.

Marr, A. (2018) *7 Job Skills Of The Future (That AIs And Robots Can't Do Better Than Humans)*, Forbes.

Ng, A. (2016) *What Artificial Intelligence Can and Can't Do Right Now*, Harvard Business Review.

Nielsen, D. & Granholm, K. (2016) *Creative Thinker's Exercise Book*, BIS Publishers.

Paul Ekman 1 of 5. Do we all have the same basic emotions? <https://youtu.be/h19PzyqOxxo>

Peacock, G. (2018) *How Good Are You at Creative Thinking*, Gordian Business.

<https://www.gordianbusiness.com.au/blog/2018/9/26/how-good-are-you-at-creative-thinking>

Peacock, G. & Kozicki, S. (2014) *Managing B2B customers you can't afford to lose: How to create joint value with your strategic accounts*, Bennelong Publishing.

The 7 basic emotions – Do you recognise all facial expressions? <https://youtu.be/embYkODkzcs>

<http://atlasofemotions.org>

<https://www.paulekman.com/>

<https://youtu.be/H52POzHe4SY>

<https://www.youtube.com/watch?v=X22-EXW0hOM>

[https://youtu.be/UFrqngK\\_iKw](https://youtu.be/UFrqngK_iKw)

<https://mic.com/articles/64427/famous-films-you-never-knew-were-based-on-shakespeare-plays#.Ixp0BMPmB>

<https://www.gordianbusiness.com.au/solve-your-impossible-problems-workshop>

<https://www.youtube.com/watch?v=cxOdFGg3Sgs>

<http://www.p21.org/our-work/4cs-research-series>

### **The Problem**

Companies not already implementing or trialing Ai are being left behind. In an increasingly competitive marketplace, playing catch up is difficult.

But does Ai work for or against your existing workforce? How will the 'Age of Ai' affect the skills your company needs for the future.

### **The Future**

Implementing Ai is becoming increasingly popular. Many repetitive, well-structured jobs based on rules are being automated.

Companies are looking to Ai as an efficiency win or a competitive edge.

As the role of Ai increases what does that mean for your human staff? To thrive in the 'Age of Ai', what skills your workforce need to retain and build?

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