STRATEGY & OPERATIONS LECTURE

Is Technology Making the Value Chain More Human — or Less Human?

A balanced enquiry into automation, AI and the changing role of people across the value chain.

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What we will cover today

1

The question

Why 'human vs. machine' is the wrong framing

2

Recap

The value chain & what 'human' means within it

3

The two cases

Arguments for 'less human' and for 'more human'

4

Activity view

Technology's effect on each value-chain activity

5

Augmentation

The human + machine operating model

6

Verdict

Risks, opportunities and discussion

The value chain in one slide

What it is

- The full set of activities a firm performs to design, produce, market, deliver and support its product.
- Each activity should add value greater than its cost — the gap is the firm's margin.
- Coined by Michael Porter (1985) to locate where competitive advantage is created.

The point for today

Technology now touches every link of the chain.

The strategic question is not whether to automate, but whether the result makes work and customer relationships **more human or less human.**

What does 'human' mean in a value chain?

Judgment

Handling ambiguity and exceptions that fixed rules cannot foresee

Empathy

Reading emotion and building trust with customers and colleagues

Creativity

Designing new products, services and ways of working

Relationships

Negotiation, collaboration and long-term partnerships

Ethics & care

Owning consequences and protecting people's wellbeing

Craft & meaning

Skill, pride and a sense of purpose in the work itself

How technology is reshaping the chain

1	**Automation & robotics**	Machines absorb repetitive physical and clerical tasks.
2	**Artificial intelligence**	Algorithms predict, recommend and decide at scale.
3	**Data & analytics**	Every activity becomes measurable and optimisable.
4	**Digital platforms**	Suppliers, firm and customers connect in real time.

The case for a LESS human value chain

Arguments that technology is hollowing out the human element

- Automation displaces routine jobs in logistics, production and back-office work.
- Algorithmic management sets the pace and scores workers, reducing autonomy.
- Deskilling: when machines decide, human expertise and craft can atrophy.
- Customer contact shifts to bots and self-service, weakening relationships.
- Surveillance and data capture can erode trust, privacy and dignity at work.
- Cost-led automation can treat people as a line item to be minimised.

The case for a MORE human value chain

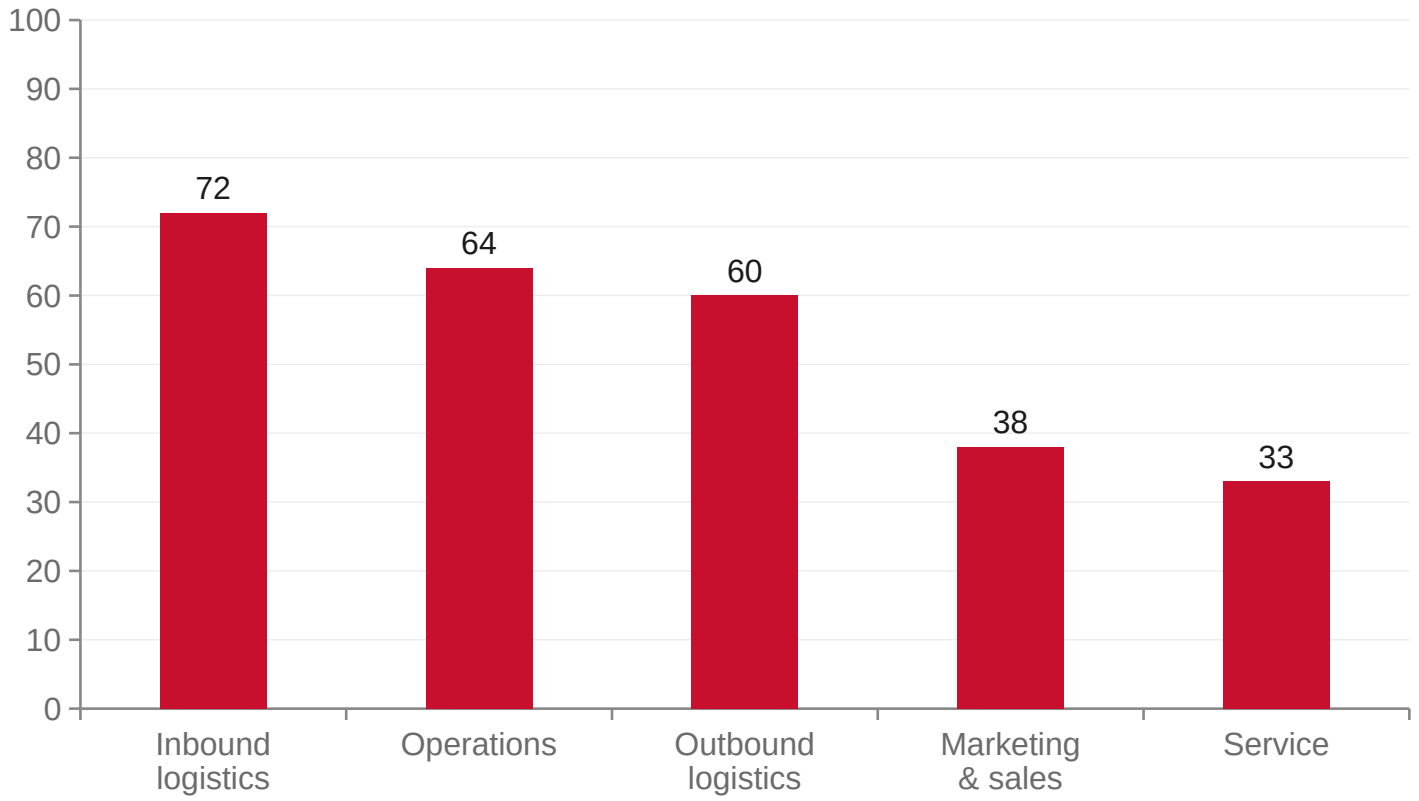
Arguments that technology frees and amplifies the human element

- Automating drudgery frees people for creative, strategic and caring work.
- AI augments judgment — faster insight, fewer errors, better decisions.
- Mass personalisation lets firms serve customers as individuals again.
- Digital tools widen access: remote work, inclusion and new opportunities.
- Data reveals where human attention adds the most value.
- New roles emerge — data, experience design, ethics, human-machine teaming.

Technology vs. the human role, link by link

Value-chain activity	What technology does	Where humans still lead
Inbound logistics	Automated warehouses, predictive replenishment	Supplier relationships, exception handling
Operations	Robotics, sensors, AI quality control	Process design, craftsmanship, safety judgment
Outbound logistics	Route optimisation, tracking, drones	Service recovery, last-mile empathy
Marketing & sales	Targeting, pricing, content generation	Brand storytelling, trust, complex deals
Service	Chatbots, self-service, predictive support	Care, de-escalation, loyalty building

Estimated automation potential by activity



Read it carefully

High automatability ≠ no humans.

Customer-facing links (sales, service) stay the most human.

Figures are illustrative teaching estimates, not a forecast.

Human + machine: the augmentation model

Machines do

Repetitive, high-volume, rules-based, data-heavy tasks — fast and tirelessly.

Humans do

Judgment, empathy, creativity, ethics and relationships.

Together

Each covers the other's weakness — higher value than either alone.

Design principle: automate the task, elevate the person. Technology should remove toil and hand back time for the work only humans can do.

Risks if technology is led badly

Job displacement

Whole roles removed faster than people can reskill

Algorithmic bias

Unfair or opaque decisions baked into the chain

Privacy & surveillance

Excessive monitoring erodes trust and dignity

Loss of meaning

Work stripped of craft, autonomy and purpose

Skill erosion

Over-reliance dulls human expertise over time

Widening inequality

Gains concentrate; vulnerable workers lose out

Opportunities if technology is led well

Better jobs

Less drudgery, more creative and strategic work

Upskilling

Investing in people to partner with the machine

Human-centric design

Building chains around customer & worker experience

New roles

Data, AI ethics, experience and human-machine teaming

Inclusion & access

Remote work and tools that widen participation

Sustainability

Smarter use of resources across the chain

Four quick cases

Warehousing

Robots move goods; workers shift to supervision, safety and problem-solving.

Banking

Apps handle transactions; staff focus on advice, trust and complex needs.

Healthcare

AI flags scans; clinicians keep diagnosis, care and the human conversation.

Customer service

Bots clear simple queries; people handle emotion and difficult cases.

So — more human, or less human?

It is a choice, not a destiny.

Technology is neutral; outcomes are set by how leaders design and deploy it.

Used to cut cost alone → the chain becomes less human.

Used to augment people → the chain becomes more human.

The winning firms automate the task and elevate the person.

Discussion questions

- Which activity in your industry is changing fastest — and is it becoming more or less human?
- Where has automation improved a customer experience you value? Where has it hurt one?
- If you led operations, which tasks would you automate first — and which would you protect?
- What new human skills will matter most in the next five years?
- Whose responsibility is it to manage the human impact of these technologies?

Key takeaways

1 Wrong question

'Humans vs. machines' misses the point — it's how we combine them.

2 Every link affected

Tech reshapes all primary and support activities of the chain.

3 Design decides

The same tool can dehumanise or humanise — leadership chooses.

4 Augment, don't replace

Automate the task; elevate judgment, empathy and creativity.