



Cost to Company and Revenue to Company–Reading Labour Value from Both Sides in an Age of Rented Machines and Metered Software Agents

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Abstract – While many people looking for work can give you a breakdown of their expenses for the company, not many can tell you what they will bring in for the company. In this article, imbalance, and the ratio of what a worker earns to what a worker produces, which can be quantified as revenue per worker, is discussed. Using published benchmarking data, industry reports, and public financial data, it provides insight into the compensation piece of a bigger output, margin, and return equation. As reported, revenue per employee in 2024 is close to 350,000 dollars across the industries, software companies have revenue per employee above one million dollars, while the labor-intensive service companies have revenue per employee below 35,000 dollars. The article then becomes a change in the paradigm that is currently taking place Robots and software agents are no longer owned, but rented, with pricing by subscription or by usage. Market estimates have placed the value of robotics as a service at some 1.8–27 billion dollars in 2024, while one large investment bank believes that the market for humanoids could be valued at 138 billion dollars in 2035. These schemes alter the way that companies value labour and the way workers have to justify their value. Readers will learn how to align their salaries with tangible impact, and a realistic and evidence-driven perspective on the future of automation pricing and its implications for hiring practices in various industries and countries.

Keywords: Cost to company, Revenue to Company, Labour productivity, Robotics-as-a-service, Humanoid robots, Automation pricing, Workforce economics, Hiring negotiation.

1. INTRODUCTION

Ask a candidate how much they want to earn and in no time, you have an answer, which is a sum of basic pay, house rent allowance, provident fund, gratuity, and bonus. Inquire about the same candidate about the amount of revenue they will generate for the employer and the room goes silent. It is that silence that is the topic of this article. On one side of the relationship between employment is rehearsed and precise. On the other side the money a person is intended to help create is hardly ever discussed. It is a common name in India and South Africa and is paid for. Cost to company (CTC) is the sum of all the money that a company spends on an employee in a year, including their salary and other indirect costs including retirement contributions, insurance, etc. The CTC of ten lakh does not mean that ten lakh will get into a bank account. Typically, only 60 to 70 percent of the number is the take home pay, and the basic salary is only 40 to 60 percent of that. This is a correct offer letter read by workers.

There is no common term used on the producing side, although finance teams measure an approximation of it. Revenue per employee is a company's total sales divided by the number of employees. It is a simple question that it addresses. How much does each employee make on the payroll. One factor that goes into that ratio is a worker's pay. No one is hired to make a zero profit on their salary, so the revenue associated with a job is almost always greater than the cost of the job. The distance above is dependent on the industry, job position, and profit margins of the business. There are two forces

that make this worth writing about, now. The first is that it makes people less able to negotiate and less aware of where their job is going because they don't know how well they are doing. The second is a transformation in the means of labor into the machinery of labor. Companies are beginning to lease physical robots and software agents, instead of buying and employing them. The arithmetic that determines whether to add a human head changes as well when a machine can be turned on for a monthly fee and turned off when demand decreases.

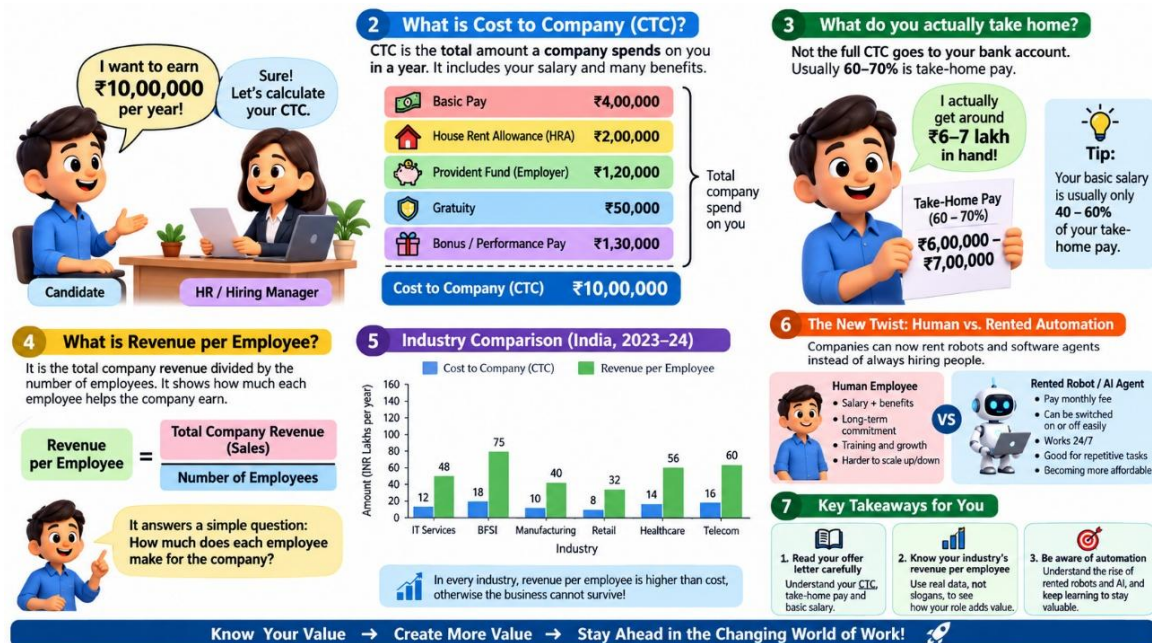


Fig -1: CTC Vs RTC

There are three things that readers will take away. A clear way to read their own price tag pay side and production side. An understanding of the performance of revenue per employee by industry, based on facts and figures, not slogans. And a stark look at the price of rented automation these days, and what it means for the individual who still wants the job.

2. OBJECTIVE

The article is an attempt to provide a common language for two numbers that determine most employment outcomes for ordinary workers, managers, human resource teams and policymakers. It illustrates how to estimate the revenue that a role is likely to generate, how that estimate compares to pay in the various industries and how the increasing market for rented robots and software agents impacts the calculation that firms make when deciding between a person and a machine. The goal is to have a working knowledge, not prediction.

3. METHODOLOGY

The data presented here is a review of published data and not from any new survey. The definitions of the term **cost to company** were taken from payroll publications and from an encyclopedic entry that defines the term as it is used in India and South Africa. Revenue per employee was sourced from workforce benchmarking reports from 2024 to 2026, such as a cross industry benchmarking report and a survey of over a thousand software companies. Market sizes for rented robotics were gleaned from a few

independent research reports, and differences among the reports are not concealed. The forecasts for humanoid robots come from an update on the forecast from a large investment bank in 2026 and were compared with previous versions of the same bank's estimates to illustrate the speed at which the numbers have shifted. The number of deployments is based on an international federation which monitors robot deployments. When there are conflicting sources, or a claim is based on only one source, this is indicated in the text. No number has been rounded to an incorrect level of precision, no source, quote, name, or web address has been made up.

4. TWO NUMBERS THAT DECIDE MOST HIRING DECISIONS

Each of the jobs has two prices. The first is the amount that the employer pays out. The second is what the employer anticipates he will make as the job is there. A hiring manager seldom verbalizes the second number, but it dictates the entire decision. If a role is going to generate 5 units of money for the firm, but it costs only one, the role is safe. If the role is expected to generate just a little more than it costs, it's not sustainable and will be the first to go when the budget is cut.

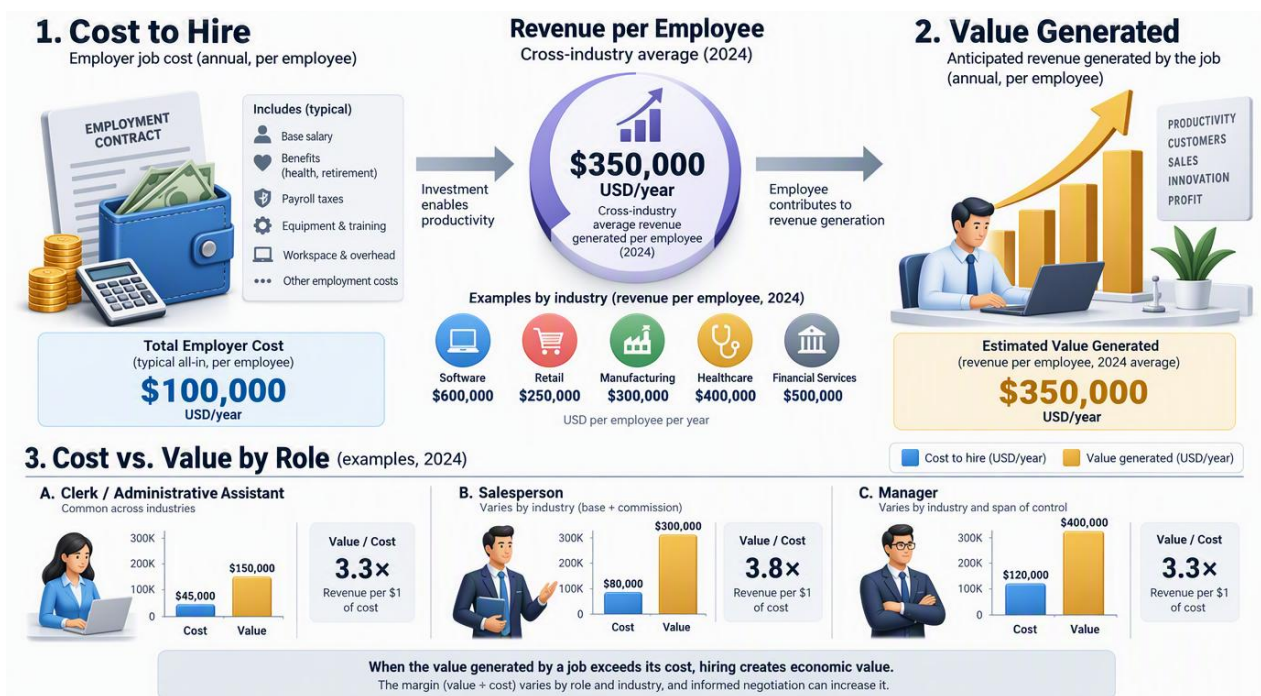


Fig -2: The Two Key Metrics That Drive Most Hiring Decisions

Candidates take hours to prepare the first number and virtually no time over the second. This is understandable. Pay is fixed and contractual, and the income associated with a job is merely an approximation, and it varies with the market and effort. The imbalance still takes a toll on people. If a candidate can explain both numbers, it means that they understand the business as the owner does, not just as an employee does, looking at a payslip. The producing number can be measured at the level of the entire company. The ratio of revenue per employee is an average contribution per employee total sales headcount. Benchmarking data for 2024 shows an average of around 350,000 USD for the cross-industry average. It is a figure that contains a lot of variation, as explored in later sections. At this moment it is more of a point. Pay is a piece of a larger pie, and the size of the pie per person varies more by sector

than does pay.

Of course, no one worker is average. A clerk in a big software company doesn't make a million dollars, and a salesperson in a small software company can make many times his or her cost. The average is not indicative of the value of a particular desk, it is indicative of the shape of the business. However, an individual who is familiar with the average for their industry can make some assumptions about his or her own job. The margin for negotiation for a higher wage is different if the sector average is 200,000 per head versus a sector average of 30,000 per head, and the role is 40,000. When you read both numbers, it transforms a salary discussion into a business discussion and that alone will alter the listening of the person on the other side of the table.

5. WHERE REVENUE PER EMPLOYEE COMES FROM AND WHAT IT MEASURES

The concept of revenue per employee is an old concept and has a simple formula. Divide the amount a firm has earned over time typically the last 12 months by the number of people on the payroll. The consequence is an average, an average is a warning. The measure does not reflect the profit of the firm because it is only a reflection of the revenues before costs. A business may have a good revenue per head and yet be making a loss after paying wages, materials, and interest.



Fig -3: Sources of Revenue per Employee and What the Metric Measures

The figure also varies depending on the definition of employee. A home builder or a construction company that operates on subcontracted crews will appear skinnier than it is, as the revenue will come to its books, and a lot of the manpower will be on somebody else's payroll. The difference in the numbers reported by two companies in the same industry may be since one firm hires employees directly while the other rents its employees. Before reading much into the ratio, anyone looking at companies must understand where each company is drawing the line when it comes to its headcount.

The age of the company is a factor too. Young companies invest a lot of money in people before they have big revenues, and therefore their revenues per person are low. A small software company that employs 20 people and generates \$2 million in sales is around a hundred thousand per head. The number increases as the same company increases sales at a faster rate than the number of employees. The trend is evident from survey results of software companies. Companies with \$1–3 million in ARR averaged around eighty-five thousand per employee, and companies with over \$50 million in ARR averaged around two hundred thirty thousand per employee. The increase was due to growth and not virtue. That's the reason decreasing revenue per employee is a concern for finance teams. It may also indicate that sales are declining or that the company hires too many people and they're not working hard enough, thereby reducing the value that each one of them brings to the company. Despite minimal changes in revenue in some years, the small and mid-sized median fell from approximately \$175,000 in 2022 to around \$215,000 in 2026, because of the lean hiring in 2021 and 2022. An increase in the ratio is caused by a reduction in the number of heads while maintaining sales. It is a good mechanical fact to remember, for it implies that when the number goes up, it is not necessarily good news for the people who remain, and that when a manager says it, he should be asked which part of the fraction has changed.

6. WHY THE MULTIPLIER DIFFERS SO WIDELY ACROSS INDUSTRIES

The pay revenue per head ratio is not a ratio, but a range. The amount of money that each worker passes is widely different between a consumer goods company and a heavy industrial company, as well as between different consumer goods companies, since they have different amount of capital, margins, and volumes. Pay against output only makes sense within one industry and in many cases within a one size band within that industry.



Fig -4: Factors Driving Wide Variations in Multipliers Across Industries

The spread published is impressive. Some software companies boast approximately \$1.76 million in revenue per employee since the copies of their product cost virtually nothing once developed. By contrast, a hospital might report nearly \$8,700 per person, as care is provided by numerous people working long shifts, and is not something that can be copied. In between those extremes, technology and financial services tend to be higher often over 400,000 and healthcare and manufacturing are in the 150,000 to 250,000 range, and labor intensive services like restaurants and general retail are even lower, sometimes less than 35,000. It is these gaps that give rise to the fact that the same wage may have different meanings in different places. A pay packet that may seem like a lot in a low revenue service business would be just a drop in the bucket in a software company, where there is a high revenue per head to support pay. There is some truth to the popular saying that a worker is paid only a fraction of the value of the output that he or she creates, and that the fraction is smaller in capital-intensive, high-margin jobs and larger in labour intensive jobs. The direction of the claim remains even though no one fixed multiplier exists for each firm role.

Seniority gives it an even more skewed perspective. The work of a frontline worker is limited by the work that's in front of them. The higher the hierarchy, the more money that can be attributed to the senior manager's decisions, as they affect the revenue of whole teams, product lines, or regions. Hence the questions related to profit, return and growth in revenue gets tougher for senior candidate than for junior candidates. The higher the seat, the more the discussion will shift from you to the moving. If a candidate knows what level within that band their industry is in, and where their level fits, then they can set expectations that a hiring manager will see as informed and not hopeful.

7. HOW TO SPEAK ABOUT YOUR CONTRIBUTION WITHOUT INVENTING NUMBERS

It's not necessary to have a spreadsheet of the employer's accounts to have a sensible discussion about revenue. They must demonstrate that they consider both the amount of money a role touches and the amount of money they earn from the role. The discrepancy will appear after one minute of response.



HOW TO SPEAK ABOUT YOUR CONTRIBUTION WITHOUT INVENTING NUMBERS
Show the value you bring. Be honest, be specific, and connect your work to what the business cares about.

1 UNDERSTAND THE BIG PICTURE
Think about two things:
How much money your role touches (the total amount)
How much money your role helps earn or save (the real value)
Show that you understand both. That already makes you stand out!

2 TURN DUTIES INTO IMPACT
The weak answer lists duties. The stronger answer shows how those duties help the business.
WEAK (Duties only)
"I was in charge of accounts. I did the shift. I did support tickets."
STRONG (Shows impact)
"I was in charge of accounts that renewed at a higher rate. I was in charge of the shift that cut waste. I handled tickets that kept customers from leaving."
This tells what you did, not the value. This connects your work to what the business cares about.

3 USE REAL NUMBERS WHEN YOU HAVE THEM
If you know the numbers, keep it simple and clear.
Salesperson: "I closed \$250,000 in sales."
Support Lead: "I helped improve customer retention and reduced refunds."
Operations Worker: "I increased output per shift and reduced scrap."
Use real numbers if you have them. Keep them straightforward.

4 IF YOU DON'T KNOW THE EXACT NUMBER, USE THE MECHANISM
You don't need to guess. Explain how your work creates value.
Don't guess made-up numbers! Explain the mechanism instead.
"I increased revenue by 30%!" (This can fall apart if questioned.)
"Quicker complaint resolution keeps customers, which helps maintain revenue."

5 DO YOUR HOMEWORK
You can use published benchmarking data (not rumours) to get a sense of typical revenue per employee for the industry and company size.
Research: Industry reports, Government data, Trusted research sites, Company annual reports.
One number — the average revenue per employee — gives you a good idea of what's reasonable.

6 SOME ROLES PREVENT LOSSES OR BUILD THE FUTURE
Not every job makes direct sales, but all can create value.
Compliance Officer: Helps avoid fines and legal costs.
Safety Personnel: Prevents accidents and costly downtime.
Researcher: Develops future products and capabilities.
These roles protect the business or create future opportunities. That value can be measured in money the company does not lose.

7 PRACTICE CONNECTING TASKS TO BUSINESS OUTCOMES
For each of your tasks, ask: "Which part of the company's income or cost does this affect?"
More sales? Higher retention? Lower costs? Less risk? Future growth?
Same task. Different angle. Bigger impact!

8 KEEP IT HONEST AND CONFIDENT
The key is to be truthful, business-savvy, and clear. Don't confuse an estimate with a fact.
Link your work to revenue you help generate or costs you help avoid.
Use real numbers when you have them.
Use mechanisms instead of guessing.
Understand the business context.
Be honest about the limits of your role.
Practice until it feels natural.

SAME SKILLS. A CLEARER STORY. A STRONGER YOU!
You don't need to invent numbers. You just need to show how your work helps the business win.
Be honest. Be specific. Show the value. That's what gets you hired!

Fig -5: How to Communicate Your Contributions Without Inventing Numbers



The weak form of the answer to an interview consists of duties. I oversaw accounts, I did the shift, I did support tickets. The stronger one ties those responsibilities to something that the business is interested in. I oversaw the accounts that renewed at a higher rate, I oversaw the shift that cut waste, I was in charge of the tickets that kept customers from leaving. All of this is without any precise numbers. It takes practice to know for each task which line of the employer's income or expenditure it will impact. If real numbers are there, they should be used simply and straightforwardly. A salesperson can reference the value of sales he/she has closed. A support lead can be based on retention or a decrease in refunds. An operations worker can refer to output per shift or to the number of scrap. If the person doesn't know the exact amount of the revenue, it is better to refer to the mechanism, rather than to guess a number. It is true and business savvy to say that quicker complaints resolution maintains customers, and consequently the revenue that they signify. Creating a precise percentage does the exact opposite and collapses the minute it is called into question.

Preparation helps. A candidate can use published benchmarking data do not rumour to review the average revenue per head of the industry and size of firm they are interviewing with prior to the interview. It all comes down to that one number. It gives the candidate a good idea of how much money is transacting at that type of business per desk, and what to expect an employer to consider as a reasonable pay request. The limit is one that is to be respected. People are hired for a variety of reasons besides revenue. Compliance officers, safety personnel, and researchers are not engaged in sales this quarter, instead, they are helping to prevent losses or create a firm's future. The honest framing for these jobs is risk averted or capability developed, and quantifiable in monetary units the firm did not lose. The overall ability is the same for each of them. Relate your actions to the benefit or retention of the business, use mechanisms if you don't have numbers and don't confuse an estimate with a fact.

8. THE TOOLS THAT NOW MEASURE HUMAN AND MACHINE OUTPUT

Firms are more comfortable discussing their revenues per role than they were 10 years ago because they're measuring more of what's going on in them. Enterprise software captures sales, services and production on a transaction basis and provides reporting tools to roll those up to the gross profit per employee and earnings before interest, taxes, depreciation, and amortization per employee. These two measures together provide the profit perspective that the revenue per head alone cannot provide. A worker with a team with high revenues and thin profit per head is in a different situation than a worker with a team with both.

The same logic is applied down to the working day with time tracking and utilisation systems. They document hours to billable output, where hours are lost and which activities generate the revenue. In service companies, this information goes straight to the pricing and staffing. The same information that informs a manager on how a team is performing also informs him/her if the new employee will help increase the revenue per head or dilute it. Measuring people, as well as measuring machines, has increased in importance and this is relevant to what is followed in this article. Robots rent themselves, and report on their own performance. A unit on the warehouse floor records the number of items moved, the time it was in operation and the number of times it failed, and this is used for billing and compared to the human alternative. An international federation that monitors robot deployments said the number of robots deployed via subscription models increased by 31 percent in 2024, which is only possible if buyers can know, in data, what the robot is returning for their monthly subscription.

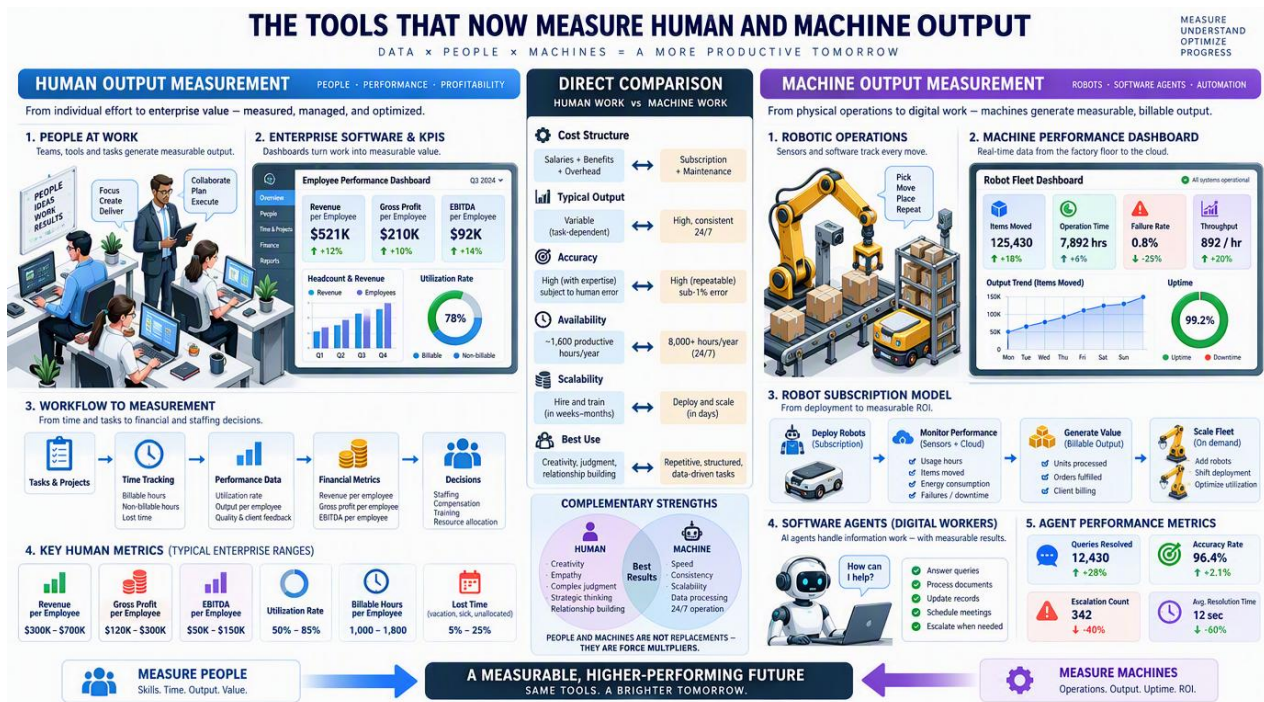


Fig -6: Tools Used to Measure Human and Machine Output

The same spirit is used to measure software agents that do work in the office. How many queries an agent has solved, how many queries they has escalated to a person and how accurate the agent's output has been when checked are all recorded in the systems. This is the substance behind the pricing of automated work by the task or by the hour and why the person vs. program decision begins to resemble a measured line item decision rather than a leap of faith. Direct impact on workers. If both human and machine output are in the same units, a role that can't demonstrate its contribution is easier to question and a role that can demonstrate its contribution is easier to defend.

9. RENTING MACHINES INSTEAD OF HIRING PEOPLE

The biggest shift in the labour equation is that a firm doesn't need to purchase a robot to use one. With the rental model, the provider will provide the machine, software that runs it, and the maintenance that supports it, for a monthly fee. This means that the customer does not have to pay for the hardware, installation or risk having outdated hardware. They pay as they go and, in some cases, they only pay for what the machine does. In the published data, the size of this market is truly up for grabs and it's time to say that. According to one 2025 report, the value of rented robotics is estimated to be approximately \$1.79 billion in 2024, rising to \$6.22 billion by 2032. A separate report estimated the 2025 amount much higher, at almost 26.72 billion, which will exceed 67 billion by 2030. The third one forecasted it to reach 1.8 billion in 2023 and 4 billion by 2028. These numbers are more than ten times different, as each research house sets the limits of the market in a different place some define the market as just autonomous mobile robots in warehouses, while others include a much larger range of machines. A careful reader is alert to the direction, strong upward growth, and is leery of any one dollar amount.

What is clear is that there is no question that companies like the model. It transforms capital expenditure into an operating cost that can be scaled up or down to meet demand. A logistics operator can hire units

prior to a busy season and let them go at the end of the season, thus avoiding the situation of having to pay for machines that are not used. It's for this reason that the logistics sector has been the first to adopt, as warehouses are stocked with mobile units to pick, sort and transport goods on a subscription basis, not a purchase order.

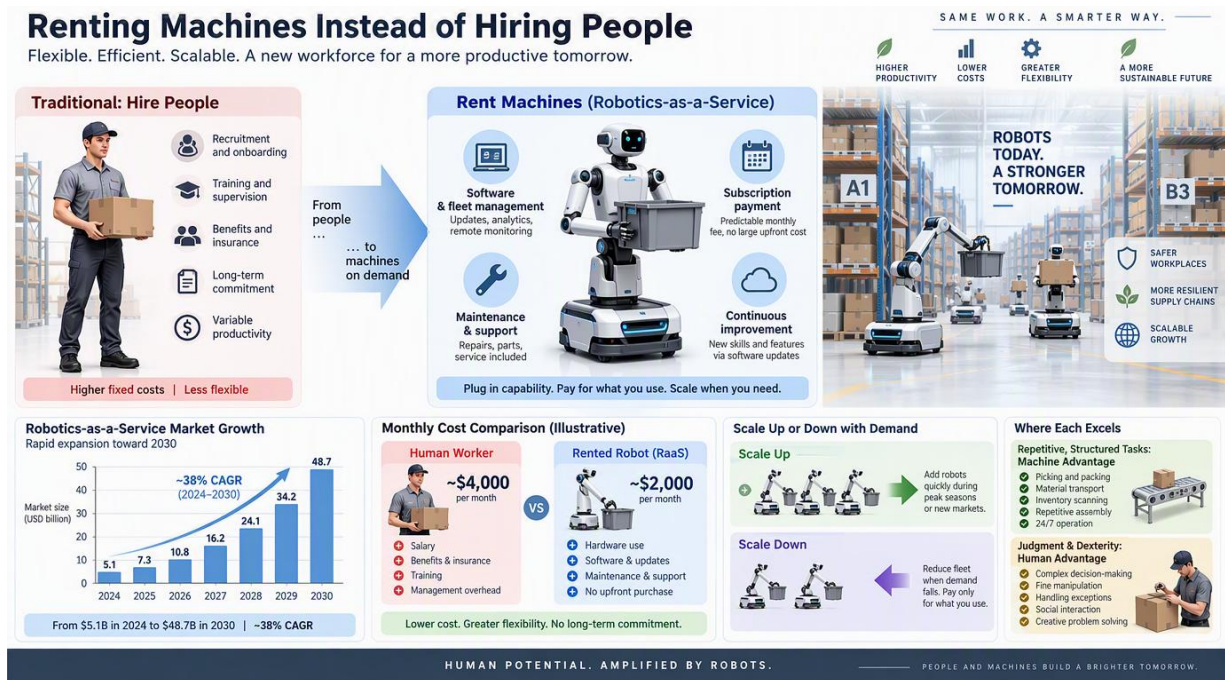


Fig -7: Renting Machines as an Alternative to Hiring Employees

The message is straightforward and should be said explicitly to the one who wishes to have the job. A rented machine is cost-competitive with a human hire and is now easily calculated and easily turned off. It's not the old threat of a big upfront payment in exchange for a worker's lifetime. It is a monthly charge which is paid in addition to a monthly wage on the same budget line. That comparison favours humans in jobs that require judgment, dexterity in unstructured environments, and interaction with people, and is most challenging on repetitive, structured tasks. Identifying which side of that line a role falls on is now a part of a player's own price tag.

10. SOFTWARE AGENTS AND THE PRICING OF OFFICE WORK

The same rules that have been applied to the renting of warehouses now apply to desks. Text generation software agents, which can respond to common questions, classify documents, write texts, and provide first-line support, are being sold on a subscription and usage basis just like physical robots. The Buyer will not be the owner of the system. They are charged for use, frequently based on the number of tasks an agent performs or the amount of computing that it uses, and they can increase or decrease these costs from month to month.

This alters the math of white collar employment as the warehouse did for manual jobs. A business considering hiring a support person can now compare the metered cost of an agent who does the same work to the fully loaded cost of the support person, the CTC. For the portion of the work that is repetitive and plentiful, the agent's cost per task may be lower than the human cost per task. Where there is a need

for account judgment, sensitive handling or accountability, the human still has the edge, and the only clear trend thus far is that the agent is responsible for routine tasks and people are responsible for escalations and exceptions.



Fig -8: Software Agents and the Pricing of Office Work

Pricing is still in the process of being established and there is no fixed standard among the providers. Some offer a fixed subscription fee per seat, some a per-resolved task fee and some for the underlying computing based on tokens or calls. The common theme is that the cost of automated office work is now being put on the same terms as human work cost per task or cost per hour, and it's now very easy to compare the two on a manager's spreadsheet. That's the true change that is comparable. It takes the guesswork out of the software may help decision and brings it to a head-to-head comparison between a metered program and a salaried person, on a line-by-line basis.

This is a clear message to workers as to where the durable value is. The simplest, most repetitive, and rule-bound aspects of a job are the aspects that are subject to a metered agent. Those parts that involve reading a situation, gaining trust, using judgment in an ambiguous situation, and accepting responsibility for an outcome are more difficult to price and more difficult to give to a program. Such a person describes the work that the current pricing of automation does not easily replace and the work that a system can now do for a per-item fee.

11. WHAT CHANGES FOR SMALL FIRMS, LARGE CORPORATIONS, AND NATIONAL ECONOMIES

The availability of machine and agent hire reduces the gap between the small and large businesses. For companies to own a fleet of robots, or build a software system, they had to have capital, and these were not available to smaller companies. A subscription that can be scaled up and down based on demand

makes the same capability available to a small business, which can add units to the mix during a busy time and remove them later. This pattern is reflected in reports on rented robotics, which show that smaller firms are growing at a faster rate than larger firms, for this reason.

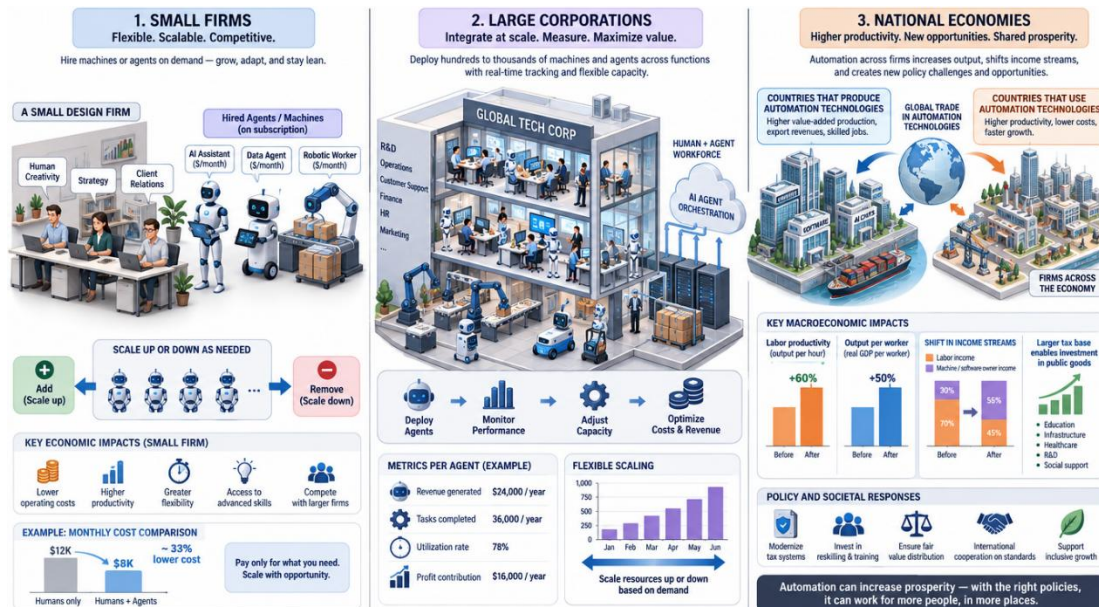


Fig -9: Implications for Small Firms, Large Corporations, and National Economies

It's a different story for big companies. They can increase or decrease based on the workload without having to carry the weight of the equipment owned or permanent personnel and they get measurement. Each unit rented and each metered agent reports its own contribution, that drives the revenue and profit per agent that boards already track. A company that moves the routine work to metered machines can increase its revenues per **human head** as it can maintain sales while reducing the human part of the denominator. But there's a caveat to that improvement, as it's not an improvement in the business so much as it is a redefinition of an employee.

In the context of a national economy, labour productivity, which is the amount of output per hour of work, is the one that determines the improvement of living standards over time. Where rented automation is used, measured output per worker is higher, and this can boost productivity measures, and consequently the tax base and the potential for wage increases. This reallocation of income is to those who own the machines and software and away from routine labour, unless policy and training shift people to work that is not priced cheaply by the machines. The location of the production of these systems, not just where people use them, determines the national result, with countries with the producers of these systems capturing more value. All of this is overlying the distribution question. Any tool that enables a small firm to be as productive as a large firm, or a firm to use labour or not, can be a source of greater opportunity, or greater inequality, depending on who is enabled, and who is pushed aside. The real and measurable economic gain is there. Technology does not determine whether it will be offered to the public or not, but rather training, taxation and sharing of the returns will.

12. WHO GAINS AND WHO IS EXPOSED AS WORK IS PRICED BY USAGE

Task or hourly pricing by person or machine clearly divides jobs into two categories. Roles that have an

output that is easily counted and easily standardised become directly comparable to a metered alternative and have the greatest exposure. The roles that are more difficult to reduce to a per-unit price are those that are based on judgment, relationships, physical skills in a messy environment, and/or responsibility for results.

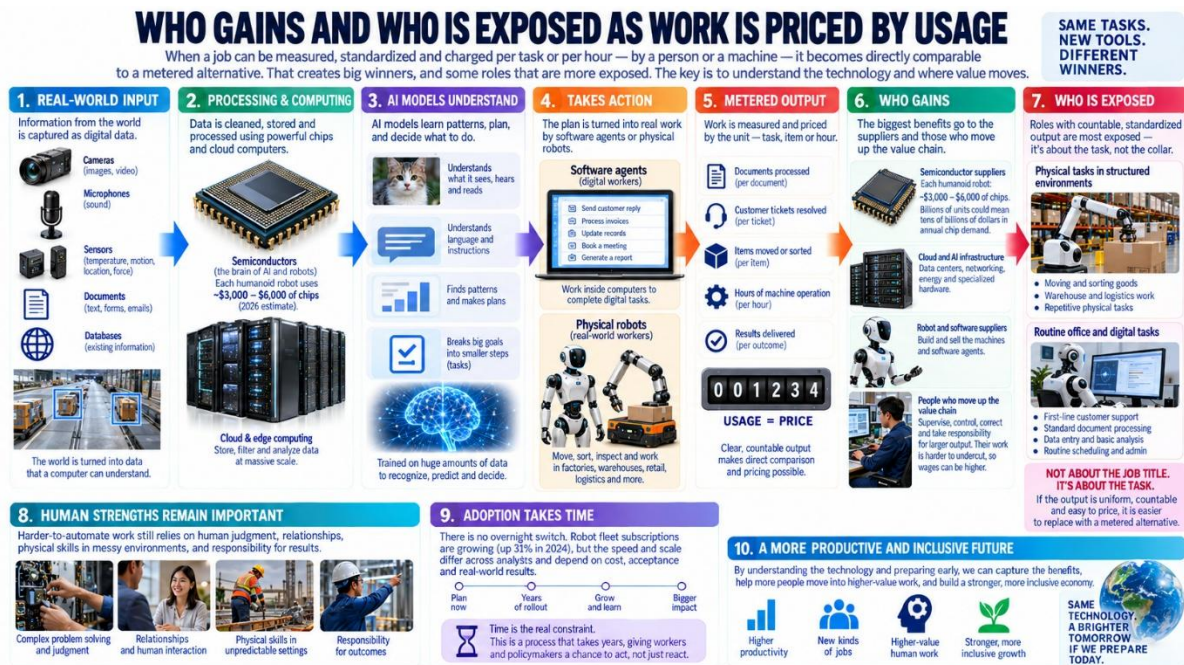


Fig -10: Who Benefits and Who Is Exposed When Work Is Priced by Usage

Unquestionably the biggest winners are the machine and software suppliers and the specialised suppliers behind them. Each humanoid robot has between three thousand and over six thousand dollars of semiconductors, according to one investment bank's 2026 estimate, and assuming the bank's forecast of billions of units that could create annual demand for semiconductors alone of tens of billions of dollars. The upside to this change could be more with the parts suppliers and the computing that powers the machines than with the machines themselves, which would focus the benefits on those with hard-to-copy technologies. Those who can move up the value chain are also better off. The human work remaining tends to be supervision of metered systems, dealing with exceptions, and judgment calls that metered systems escalate. The individual who develops the capability to control, correct and to accept responsibility for the automated product enters work that is not so easily undercut by pricing. The wage that goes to that job can be higher, since this individual is now responsible for more production than previously.

The exposed group is NOT determined by collar, it is determined by task. Structured environment manual labor e.g. moving and sorting of goods is challenged by rented physical robots. Metered software agents are used for routine office tasks, first-line support, typical document processing, etc. What they have in common is that they're not unskilled, but their output is uniform and countable, making it easy to establish a price against the units. The only real constraint on all this is time. While adoption is happening and the subscription robot fleet is increasing 31 per cent in 2024, the amount of how far and how fast it will go is very different from one analyst to the next, and some of the largest predictions are based on assumptions that have yet to be realized, such as cost and acceptance. Exposure is a process that takes

years and is not an overnight event, so there is an opportunity for workers and policymakers to act, and not just react.

13. EFFECTS ON DAILY LIFE, WAGES, AND THE GENERATION NOW IN SCHOOL

The immediate impact of these changes is more nuanced for the worker who will be going to work each day, and more specific than the headlines. Jobs don't disappear in one fell swoop. Specific activities in jobs are delegated to machines agents and the job that is left is restructured around the activities that the machines cannot perform. A warehouse employee spends more time supervising and dealing with the difficult cases that a robot can't, and less time carrying. A support agent no longer must waste time on repetitive questions, and more time is spent on the more challenging customers that a program escalates. The value of the remaining parts determines the price, and the parts that don't want to be cheap are the parts worth building human parts.

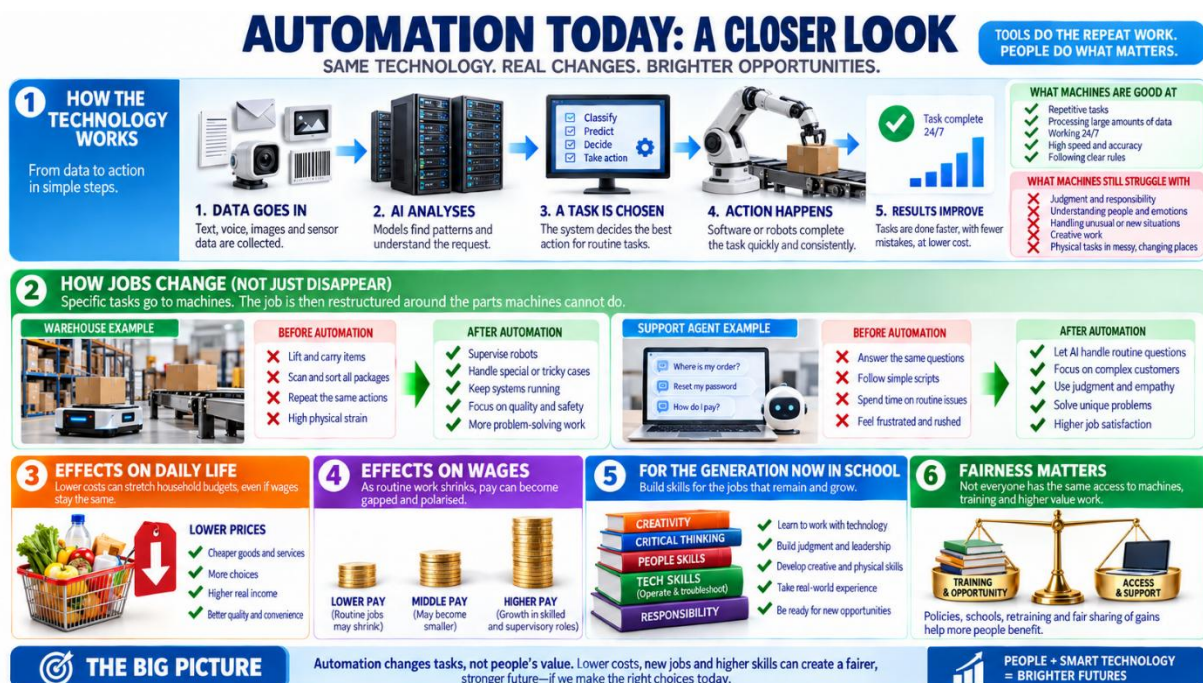


Fig -11: Effects on Daily Life, Wages, and Future Generations

Changes in prices have an impact on household budgets as much as do changes in wages. If renting automation reduces the costs of producing goods and providing routine services, some of that cost saving can be passed on to consumers as lower prices, even if the number on a payslip doesn't change, and thus increase real income. If the number of routine jobs contracts while the number of new jobs grows, the same force can cause the pay distribution to become hollowed out and move toward the extremes of the pay scale. Both impacts are reflected in the adoption data, and the relative importance of the two impacts in any location will depend on the speed of the displaced workers to enter good paying employment.

The lesson to be learned from the pricing of work is very real to the generation now in school and can be acted upon early. The skills that are least likely to be metered are those that involve judgment and responsibility, are based on reading people and situations, and are physical or creative in nature and are

too diverse to be standardised. A young person who develops the skills to operate and troubleshoot automated systems and to own the outcomes is preparing for the jobs that the current automation economy leaves for humans. The thinness of a program's foundation is given by rote skills it can now execute for a per-task fee, which is less than it was a generation ago. There is a question of fairness we can't avoid in our everyday life. Regions, incomes, and countries do not have equal access to machines, training, and higher value work. The upside is a family that has the resources to enable a child to progress towards supervisory and judgement based work, the exposure is a family that is entrenched in routine labour with no way to move up. This isn't determined by technology. Decisions on schooling, retraining and sharing of gains do and it is these decisions that impact ordinary lives most directly.

14. THE ENVIRONMENTAL AND SOCIAL SIDE OF RENTED AUTOMATION

There is an environmental logic to renting machines, which can easily be overlooked, and not owning them. Equipment that is used by several customers can be used at a higher rate of utilisation than if owned by a single company and idle between peaks. The more use per unit, the fewer units that are needed to do the same work, thus reducing the number of materials and energy embodied in the manufacture of the units. A provider is responsible for maintaining and eventually recovering the hardware, so there's an incentive to repair, refurbish and recycle instead of discarding it, because it's not the customer's asset, it's on the provider's books. This in principle is a step towards equipment life extension and a reduction of waste. The flip side of the ledger is true and shouldn't be dismissed. Computing that powers the software that enables machines and agents to function uses electricity and water on a large scale, and the more it's used, the more electricity and water it requires. The weightless metered office agent still consumes data centres that have a physical footprint. The net environmental impact of rented automation is not yet decided in public data it can either decrease or increase the overall environmental footprint, depending on how much material is saved by sharing the hardware, and how much energy is used to power the intelligence behind it.

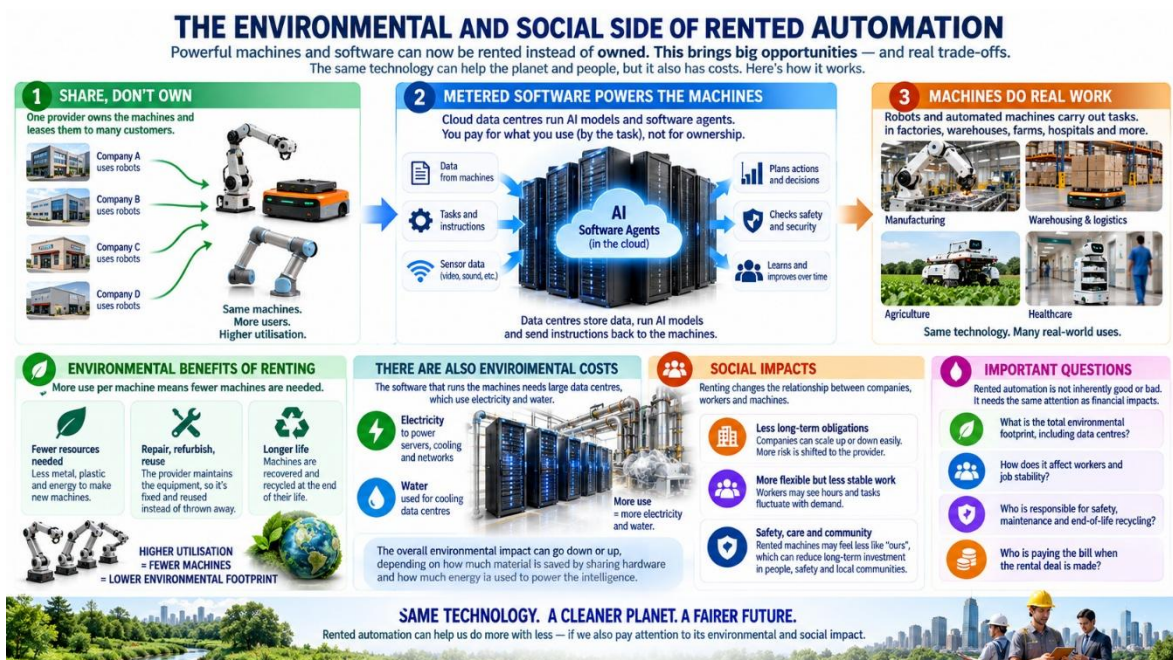


Fig -12: Environmental And Social Side of Rented Automation

Socially, the rental model alters the dynamics between a company and the work that it relies on. If a company owned its machines and hired its workers, it had long obligations to both. When it leases machines, and meters software on a task basis, those obligations become less, and the risk of a downturn becomes more the provider's, and, through the provider, whoever else is responsible. This can increase the firms' ability to withstand shocks, as they can easily cut back on hours, but also reduce the stability of the overall labour market for the individuals who see their working hours fluctuating according to demand. There's also an issue of the counted and the cared for. A partially rented machine shop, with metered agents, is not perceived as a firm's obligations, safety responsibilities, or community relationships. The increase in output per head measured can be a subdued increase in the nature of the workplace, in which fewer individuals have a secure stake in the enterprise. All of this doesn't say anything bad about the technology. It calls for the same attention to be paid to the social and environmental impacts as is paid to the financial impacts, and for the same questions to be asked in each case: Who is paying the bill when the rental deal is made.

15. WHO IS ANSWERABLE WHEN A RENTED WORKER IS A MACHINE

When you rent a machine or software agent, it becomes a question that you don't get with an employee. If a subscription robot is the cause of damage to goods, or a metered agent provides a customer with incorrect advice which results in a loss, it is not clear which agent is responsible. It could be the firm who utilized the system, the supplier who furnished the system or the developer who created the underlying model and the contract between them typically dictates. In most countries these arrangements have not yet been matched by public law, so that the responsibility for the agreements is left to the private terms which are never presented to the affected customer.

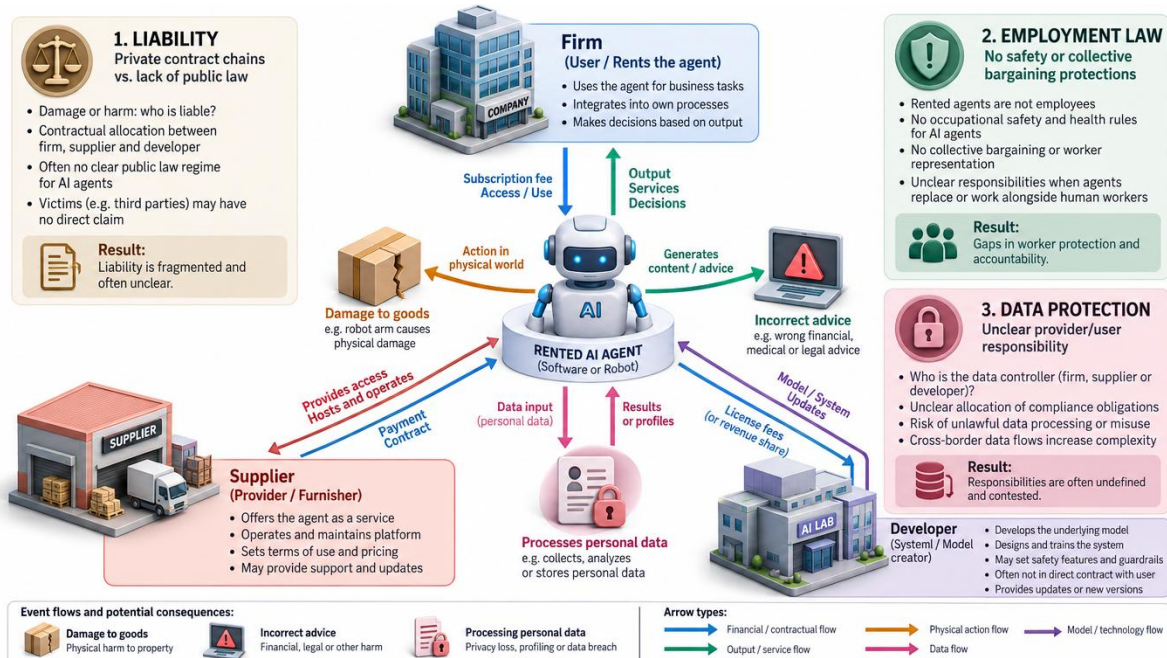


Fig -13: Accountability When a Rented Worker Is a Machine

Another area that is unsettled is employment law. A rented unit or a metered program is not subject to protections surrounding the employer/employee relationship such as protections in the areas of safety,



dismissal, or collective bargaining. Thus, a human subscription workforce can be outside of the scope of labour regulation as none of the parties would want that result.

A third consideration is data protection. Personal data is processed by software agents that respond to customer requests, and the responsibilities for such data can be with the provider, the user or both, depending on the jurisdiction. To date, there is no pan-European standard on these questions in general. It is important to name this space as pricing is the determining factor of adoption while liability is the determining factor of trust. For firms and policy makers considering rented automation, it is important that there is clarity as to who is accountable for its failures, and that the public understands who to blame when an automated worker has failed. The expansion outlined in the preceding sections is accompanied by legal as well as economic risks until these questions are resolved in the law and not in the private contracts.

16. RESEARCH GAP

The pay side and the production side of work can be juxtaposed and several holes in the knowledge are evident. The first is related to the person. Revenue per employee is only calculated at the company level and workers and hiring managers act as if there were a similar metric for each position. There is no agreed, published way of correlating a specific job with the revenue that it contributes in a manner that a candidate might cite. So people without absence tend to either be silent or make up something, and that's not honest negotiation.

Secondly, there is the condition of the market data themselves. The estimates for the rented robotics market for a recent year vary from less than two billion dollars to over twenty six billion dollars it all depends on how far each research house stretches the definition. This isn't a small margin of error, it's more than ten times the difference, and it means that policymakers and firms don't have a reliable number to plan for. There are no public standard definitions of what rented automation means and independent verification of the numbers is not yet available.

The third gap is that of pricing software agents that do office work. Automated white collar work is being priced by usage, subscription or computing consumed, none of which are common to all providers, and of which little public data exists to compare the prices to the fully loaded cost of a human doing the same job. If not, then workers will be unable to clearly understand which aspects of their work are being replaced, and researchers will not be able to monitor the substitution in real time.

The fourth gap is distributional and long time. Predictions of humanoid and agent adoption range by five times or more, and some of the most aggressive ones are based on assumptions of decreasing costs and public acceptance that have yet to be tried on a large scale. Very little of this work follows the gains to where they land, who and which parts of the population benefits, and who suffers from the displacement. Environmental accounting is even more sparse, and even if the materials saved by sharing hardware are considered, the energy used to operate the intelligence behind the hardware is not.

All four share as a common thread a lack of shared language. The workers have a facility with cost to company and a stumbling block with the revenue they generate, and there is no common method taught. If this link is not made teachable and until the market and pricing information have a more solid public base, large decisions regarding work will continue to be made by both individuals and institutions with only half the data.

17. CONCLUSION

This article's argument is based on only one asymmetry. They know the price of these, and few know the price of these and they are half, when they need to be whole, in the room where they must pay. There is no magic formula, it's a habit. Read your own price tag front and back. Find out approximately how much money flows through a desk in your field, don't rely on hearsay or rumor and be able to explain what you do in terms of money earned or saved. If you don't have an exact number, specify the mechanism, rather than make up a number. This ancient art is undergoing transformation in a broader context. Businesses are now able to lease real robots and to lease software agents by the task on the same budget line as a human wage, a leasing fee for a metered machine is charged. The market for rented robotics is rapidly expanding, but the size of the market is highly controversial in the published data credible estimates for one year vary by more than ten times. The predictions for the humanoid machines have jumped significantly one bank has revised its estimate of 2035 to around 6.5 million units and a market of nearly 138 billion dollars, but these projections are based on assumptions of cost and acceptance which have yet to be realized. Direction is clear. Magnitude and timing are NOT.

What is to come for a working person is not alarming. The ones that are the most subject to cheap automation are routine, countable, manual, or clerical tasks. The work that holds its value is a mix of judgement, responsibility, physical skill, in unstructured environments, and dealing with people and exceptions. The actual answer to a labour market that increasingly values output in the same units for humans and machines, is to work towards that kind of work and describe one's contribution in that way. Much remains undone. There is no accepted method of correlating a specific role to the revenue that it generates, there is no standard definition behind the market numbers, little tracing of who wins and who loses, and the metered cost of an agent to the loaded cost of a person is not standard. It's a job for researchers, employers, and policy makers to close those gaps. The task is closer to home for the individual and can begin today by knowing both numbers on their own price tag and say both numbers when the time is right.

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