

## 7. Anthropic's Labour Market Study – Science & Technology

The rapid advancement of Artificial Intelligence (AI) has moved beyond science fiction into a measurable force in the global labour market. A landmark study by Anthropic provides a data-driven look at how Large Language Models (LLMs) are beginning to reshape employment, particularly in knowledge-heavy economies like India and the United States.

### 1. Background and Definitions

To understand the shift in the labour market, it is important to define the core concepts used in the research–

**Observed Exposure–** A proprietary metric developed by Anthropic. It measures the intersection of what AI *can* do (theoretical capability) and what AI is *actually* doing (real-world usage data from systems like Claude).

**Large Language Models (LLMs)–** AI systems trained on vast amounts of text data capable of generating human-like text, code, and analysis (e.g., Claude, ChatGPT).

**Structural Shift–** A fundamental change in how an industry or economy functions, often leading to permanent changes in hiring, required skills, and job roles.

**Knowledge-Based Occupations–** Roles that primarily involve the acquisition, manipulation, and dissemination of information (e.g., analysts, programmers, lawyers).

### 2. Key Highlights of the Anthropic Study

The study identifies a significant "implementation gap" and early warning signs in the hiring pipeline–

**The Capability–Usage Gap–** There is a stark difference between what AI is capable of and its current adoption.

Example– In computer and mathematics roles, LLMs have the theoretical capability to perform 94% of tasks, yet real-world usage is currently only at 33%.

**Primary Exposure Zones–** The most affected jobs are those involving data analysis, coding, writing, and documentation. Specific roles include–

1. Computer Programmers and Junior Developers.
2. Financial and Business Analysts.
3. Legal Professionals and Administrative Staff.
4. Customer Service Representatives.

**Hiring Over Layoffs–** Currently, AI is not causing mass "firings" but is leading to "silent" labour contraction. Companies are slowing down new hiring to evaluate AI's potential rather than laying off existing staff.

**The "Entry-Level" Crisis–** Since the launch of ChatGPT, hiring for high-exposure roles among workers aged 22–25 has dropped by approximately 14%. This suggests that AI is replacing the "stepping stone" jobs usually held by recent graduates.

### 3. Demographic and Sectoral Patterns

AI exposure is not uniform across the population; it follows specific educational, gender, and ethnic lines based on current job distributions.

#### Demographic Exposure Statistics

| Category          | High Exposure Group Characteristics | Comparison/Context                                                                                       |
|-------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------|
| Gender            | 54.4% are Female                    | Only 38.8% of females are in low-exposure roles; reflects high concentration in admin/business services. |
| Education         | Graduate Degree Holders             | Nearly 4 times more likely to be in high-exposure jobs than those with lower education levels.           |
| Ethnicity (Asian) | Twice as likely                     | Asian workers are disproportionately represented in high-exposure (IT/Analysis) roles.                   |

|                            |                    |                                                                                               |
|----------------------------|--------------------|-----------------------------------------------------------------------------------------------|
| Ethnicity (White)          | 65.1% of the group | Represents the largest racial demographic in the highly exposed knowledge-work category.      |
| Ethnicity (Black/Hispanic) | Underrepresented   | Currently less exposed because they are often concentrated in manual/physical labour sectors. |

#### Insulated vs. Exposed Sectors

**Exposed-** Knowledge work, IT, Legal, Finance, and administrative services.

**Insulated-** Physical labour, manual dexterity, and high-stakes human interaction. This includes Construction, Agriculture, Protective Services, Personal Care, and Skilled Trades. These roles require situational awareness and physical presence that current AI cannot replicate.

#### 4. Implications for the Indian Economy

India, as a global hub for IT and Business Process Outsourcing (BPO), faces unique structural risks-

**Threat to IT Services-** Indian giants like TCS, Infosys, and Wipro rely on tasks like data processing and contract analysis. Analysts estimate that 9–12% of IT services revenue could disappear over the next four years due to AI automation.

**Market Signals-** The Nifty IT index has seen a nearly 20% decline over the past year, reflecting investor anxiety over AI tools that can automate contract reviews and financial analytics.

**The Outsourcing Challenge-** Anthropic's new workplace tools can perform legal compliance and sales data analysis locally, challenging the traditional model of sending this work to Indian service centres.

#### 5. Structural Challenges in India

To navigate this transition, India must address several internal bottlenecks-

**Skill Gaps-** A large portion of the workforce lacks the advanced mathematical and scientific grounding required to *build* or *manage* AI.

**Investment Deficit-** India's R&D spending is significantly lower than that of the US and China.

**Educational Rigidity-** The current system lacks sufficient emphasis on innovation and advanced technology training.

#### 6. Way Forward

AI is a tool for productivity, but only for those who adapt. The report suggests a focus on-

**Reskilling and Upskilling-** Moving the workforce from "data entry/basic coding" to "AI orchestration and complex problem solving."

**STEM Reform-** Revamping education to prioritize digital literacy and advanced scientific skills.

**Encouraging Entrepreneurship-** Shifting from a service-provider mindset to an AI-product innovation mindset.

**Policy Adaptation-** Creating frameworks that encourage AI investment while protecting workers through the transition.

Source- <https://indianexpress.com/article/explained/explained-economics/jobs-that-ai-could-certainly-replace-anthropic-study-10571054/>