

Artificial Intelligence Transformation Playbook

excerpt from Andrew Ng's

“How to lead your company into the AI era”

The AI enabled competitive landscape

Lessons from the leaders

AI / Artificial Intelligence technology is poised to transform every industry
It will be to this century what electricity was to the last one

AI has created tremendous value at leading technology companies, additional waves of value creation will stretch beyond the software industry

Following are insights from the leaders into how to become a strong AI company

- 1 • Execute projects to gain momentum
- 2 • Build in-house AI team
- 3 • Provide broad AI training
- 4 • Develop an AI strategy
- 5 • Develop internal and external communication

Execute pilot projects to gain momentum

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- In order to gain AI momentum and get the AI flywheel started, first AI projects should be:
 1. More likely to succeed than to immediately deliver value;
 2. Meaningful enough to draw attention, develop familiarity and spur investment in further AI projects;
 3. Large enough to not be regarded as trivial.
- Suggested characteristics of first AI projects:
 1. Possible for a new internal or an external team (i.e. lacking industry domain knowledge) to partner with internal teams (i.e. having industry domain knowledge) and build AI solutions and show results (generally within 6-12 months);
 2. Technically feasible, e.g. not too ambitious, broad etc. Better to have trusted AI practitioners (e.g. consultants, academics etc.) do due diligence before project kick-off;
 3. Having clear and measurable objectives in terms of business value.
- Building up momentum leads to more and more valuable projects (self reinforcing loop).

Build in-house AI Team

2

- External outsourced partners with deep technical AI expertise help gain momentum faster;
- In the long-term executing projects with an in-house AI team will be more efficient (apart from some inherently confidential projects);
- Important to have C-suite buy-in to build the internal team;
- Key step: the formation of a centralized AI team operating for the whole company (with various possible organizational set-ups);
- Key responsibilities of AI the team:
 1. Build up the AI capability to support the whole company;
 2. Execute initial cross-functional projects then continue to deliver valuable projects spanning multiple Units/Functions;
 3. Develop consistent standards for recruiting and retention;
 4. Develop company-wide platforms useful to multiple Units, unlikely to be developed individually and independently;
- New job descriptions and team organizations will emerge (e.g. frequent matrixing of AI experts);
- There is a recruiting war for AI talent. Finding and retaining the right talent will be a challenge. Long term partnership with a recruiting partner will help.

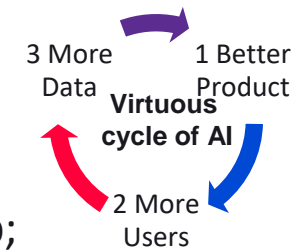
Provide broad AI training

3

- No company has enough in-house AI talent, in itself hard to find and retain;
- Digital content (e.g. MOOCs, eBooks etc.) is very cost effective to train up , also large, numbers of employees. Digital content if more affordable and customizable.
- Consultants delivering in-person contents, if available (i.e. affordable), should complement online content («Flipped classroom» pedagogy) to provide faster, more enjoyable and motivating learning;
- AI will transform many jobs. Those affected should be provided with the knowledge to adapt to the new AI enabled roles.
- A notional education plan should address:
 1. (Nontechnical) Executives: to understand AI , blend it into business strategy , allocate resources prioritize projects;
 2. AI leaders: to set direction, allocate resources and manage AI projects;
 3. AI engineers: to be able to design and deliver specific AI projects;

Develop an AI strategy

- AI strategy will guide toward creating value while also building defensible moats;
- With time and experience the internal AI team will be able to identify where and how AI can create the most value and focus resources accordingly;
- **Developing a cohesive and thoughtful AI strategy will require some basic experience with AI** (i.e. unlikely from the start). Partial progress in steps 1-3 will enable that.
- The way to build defensible **moats** evolves with AI, some approaches:
 1. Build several AI assets broadly aligned with a coherent strategy;
 2. Leverage AI to create industry and situation specific advantage;
 3. Design strategies aligned with virtuous circle of AI positive-feedback loop;
- Data is the key asset for AI systems and that calls for **a sophisticated data strategy**:
 1. Strategic data acquisition. More data never hurts. Design of a multi-year data acquisition strategies, industry and situation specific;
 2. Unified data warehouses. Centralized data lake;
 3. **Identification of truly valuable data.** AI team involved early in data acquisition and empowered to prioritize types of data to acquire and save.



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Develop internal and external communications

- AI will affect business significantly. A communication plan should target key stakeholders:
 1. Investor relations: Share value creation thesis for AI, current and future AI capabilities, a thoughtful AI strategy;
 2. Government relations: *Limited to heavily regulated industries and/or activities*;
 3. Customers/Users education: Disseminate marketing and product roadmap messages to illustrate the benefits;
 4. Talent/Recruitment: Build employer brand to enhance the ability to attract and retain AI talent. Showcase past AI successes and achievements;
 5. Employees: Explain AI and address fear, uncertainty and doubt deeply seated in employees concerned about their roles or jobs. Reduce reluctance to adopt the new unknown AI.

Some recollections from the last much hyped revolution: the internet

- Understanding how a technology transforms industries is critical to taking the greatest advantage of it.
 - In the internet era:
 - a website plugged into a shopping mall did not make an internet company;
 - a true internet company was organized to do the things internet allowed very well;
 - In the AI era:
 - Deep learning capabilities plugged into a typical company will not make it an AI company.
- A company to become great at AI will have to organize itself to do the things that AI allows very well.
 - For that it must have:
 - Resources to systematically execute on multiple valuable AI projects;
 - Understanding of AI;
 - Strategic direction.



Thank you

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