

Deep Learning for Business

Business with Deep Learning & Machine Learning

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Business Considerations in the Machine Learning Era

Business Considerations in the ML Era

ML related findings from Survey on Enterprises with at least \$500M in sales

- 76% claim to be targeting for higher sales growth using ML
- At least 40% already use ML in sales and marketing

For full details, the following references are highly recommended.

- James Wilson, Narendra Mulani, Allan Alter (Accenture Institute for High Performance), "Sales Gets A Machine-Learning Makeover," MIT Sloan Management Review, May 17, 2016.
- Louis Columbus, "Machine Learning is Redefining the Enterprise in 2016," Forbes, June 4, 2016.

Business Considerations in the ML Era

ML related findings from Survey on Enterprises with at least \$500M in sales

- 38% credited ML contributions in sales improvements
- Several European banks were able to increase new product sales by 10% while reducing churn by 20%

Business Considerations in the ML Era

Company considerations of ML & DL

1. Data protection is critical

- AI accuracy is based on the data set used in training and the SW
- Data is just as important as the SW, so data protection is very important

Business Considerations in the ML Era

Company considerations of ML & DL

2. Customization to company characteristics, business data, and context are critical

- Several types of similar functional SW exist
- Open source SW and development tools are available
- Misuse of AI & ML could result in racial discrimination and other social issues

Business Considerations in the ML Era

Company considerations of ML & DL

3. AI and Robotic services are always available
4. AI and Robotics will result in job displacements
5. So, what can you do to prepare for this ML business era?

Personal Considerations in the ML Era

1. Make AI do the Routine Administrative Work

Survey on Administration Management Work Load

- 54% Administrative coordination and control
- 30% Solving problems and collaborating
- 10% Strategy and innovation
- 7% Developing people and engaging with stakeholders

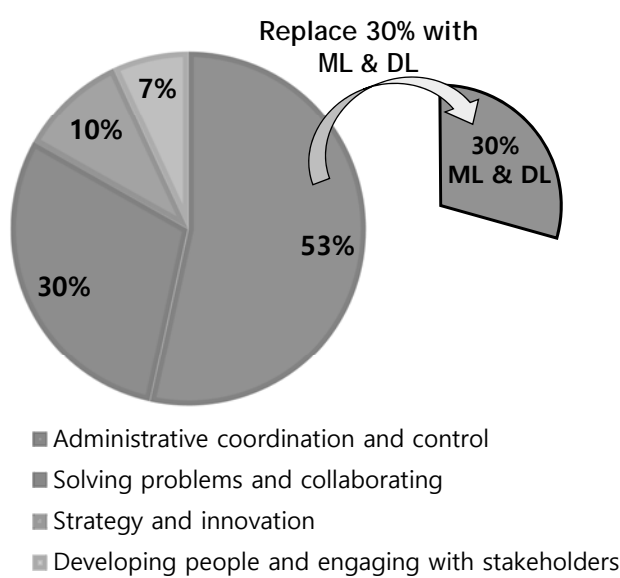
For full details, the following reference is highly recommended.

- Vegard Kolbjørnsrud, Richard Amico, and Robert J. Thomas, "How Artificial Intelligence Will Redefine Management," Harvard Business Review, Nov. 2, 2016

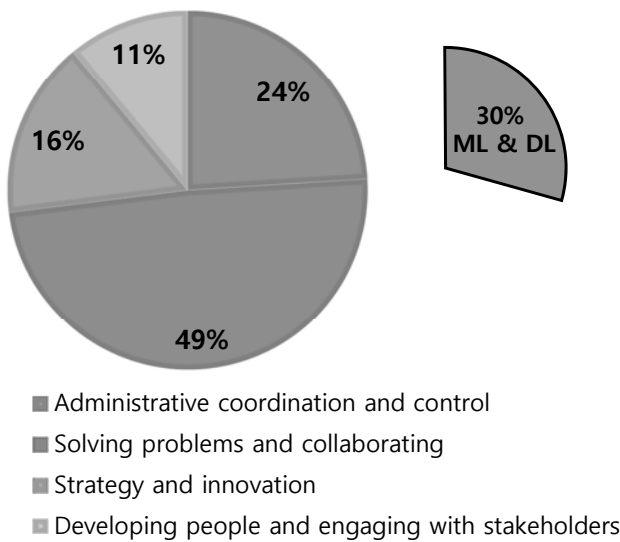
Personal Considerations in the ML Era



Personal Considerations in the ML Era



Personal Considerations in the ML Era



Personal Considerations in the ML Era

1. Make AI do the Routine Administrative Work

Assuming that an AI Management Assistant were to assist 30% of the work load on Administrative Coordination and Control

- 49% Solving problems and collaborating
- 24% Administrative coordination and control
- 16% Strategy and innovation
- 11% Developing people and engaging with stakeholders

Personal Considerations in the ML Era

2. Make AI do the Report Writing

- You setup the report format and have the AI system write your reports from the analyzed data results
- Is this possible?
Are there any examples of AI Report Writing?

Personal Considerations in the ML Era

2. Make AI do the Report Writing

Example of AI Report Writing

- AP (Associated Press) has applied software AI robots to assist report writing
 - AP's earnings expanded due to increased reporting from approximately 300 stories to 4,400 stories per quarter
 - AP journalists were able to focus more on investigative reporting
 - Improvement in both Quality & Quantity!

Personal Considerations in the ML Era

3. You do the Decision Making & Judgment Work

- Judgment-oriented skills that require creative thinking
- Experimentation, data analysis & interpretation, and strategy development
- Learn to (partially) trust the advice of AI data analysis

Personal Considerations in the ML Era

3. You do the Decision Making & Judgment Work

- Being able to add collaborative and comprehensive ideas to enhance existing ideas and findings from data analysis
- Treat AI & ML as an always-available assistant and adviser

Personal Considerations in the ML Era

3. You do the Decision Making & Judgment Work

Judgment & Decision making based on
added human knowledge and experience
to the data analysis results of AI & ML

— Considering factors

- Organizational history
- Culture
- Empathy
- Human Rights

Personal Considerations in the ML Era

3. You do the Decision Making & Judgment Work

Judgment & Decision making based on
added human knowledge and experience
to the data analysis results of AI & ML

— Considering factors

- Common Wealth
- Principles of equality
- Policies
- Ethical reflection factors

Personal Considerations in the ML Era

4. Become a leader in teaching & advising on how to effectively use AI & ML

- Learn early and teach how to use AI & ML in decision making and judgment work
- Use AI in creative thinking & innovative designing
- Add your social networking skills to contribute to the (AI & ML advised) new business plan

Personal Considerations in the ML Era

4. Become a leader in teaching & advising on how to effectively use AI & ML

- Coach more efficient activities and people development
- Contribute on improving collaboration and team work
- Develop new KPIs (Key Performance Indicators) to drive more effective AI adoption into the company's business structure

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References

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