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Accelerating Business Growth

A.I. Guide for CEOs & Directors

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The Importance of A.I. for CEOs & Directors

This guide on Artificial Intelligence (A.I.) is specifically written for CEOs and Board Directors. The purpose of this guide is to inform the reader of the role that A.I. is likely to have in corporate governance. It specifically addresses the importance of A.I. in helping Directors meet some of the fundamental obligations they owe to the companies they represent.

The main premise of this guide is that A.I. will become a new dimension that will be used by the financial community to determine current and future market valuations of organisations.

Simply explained, organisations able to demonstrate the use of A.I. in their business operations and the formation of forecast reports using the aid of A.I. will be valued higher than their peer organisations who are not using any form of A.I. in their business operations. We predict that the use of A.I. by organisations will become a standard component analysed by fund managers to evaluate companies for investment.

CEOs and Board members owe a fiduciary duty to the company they represent. This duty is defined in a number of ways; namely, their responsibility is to act to the best of their ability in the interests of the company. The primary duty is to the company, that is, to the shareholders/members now and in the future. This fundamental obligation cannot be fulfilled if Board Directors or the CEO are not taking the necessary steps to effectively address any aspect of the business that can adversely affect the value of the company.

Companies lose market value due for a number of key reasons:

- Reduction in new sales
- Higher operating costs
- Poor actual results compared to forecasts
- Loss of confidence in the CEO, Board or key leadership team
- A crisis or illegal activity in the company

If one or more of these outcomes occur then financial analysts will deem the company a higher risk than previously stated in company records and will penalise it in the marketplace with a lower valuation and stock price.

In all of the above cases, except when an unplanned crisis occurs, the use of A.I. can help reduce the likelihood of these events occurring. This is why we believe CEOs and

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Board Directors need to properly understand how A.I. can be used to help them meet their primary fiduciary obligations to the company.

To maintain and increase the value of the organisation CEOs and Board Directors must take action to ultimately reduce or eliminate these risks that can erode a company's value.

Risk is defined as the probability or threat of damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal vulnerabilities, and that may be avoided through pre-emptive action.[1] A.I. software now offers organisations the ability to take the necessary pre-emptive actions to effectively reduce the likelihood of risky events taking place in the company leading to loss of shareholder value. This guide aims to outline the key applications of A.I. that can be used to reduce the key risks impacting shareholder value.

The Current Spectrum of A.I.

A.I. is a broad definition given to software that performs tasks normally performed by humans. The definition also extends to tasks that are considered beyond normal human capacity or intelligence. The full spectrum of A.I. can be understood by measuring the A.I. software along the following dimensions:

1. The type and richness of data used by the software to perform a function
2. Speed of execution of a task
3. The learning capabilities
4. The decision-making capabilities
5. Intelligence compared to human capability

An A.I. maturity model was first developed by Kinetic Consulting Services in 2015[2]. This model has evolved to now incorporate the level of super intelligent A.I. In the model over the page there are 5 categories of A.I. In each category a summary is provided of the characteristics of each dimension. Examples of typical A.I. applications have been provided for each category as illustrations of typical industry applications of the software.

[1] http://www.businessdictionary.com/definition/risk.html
[2] The Case for Robotic Process Automation (RPA) - 2015

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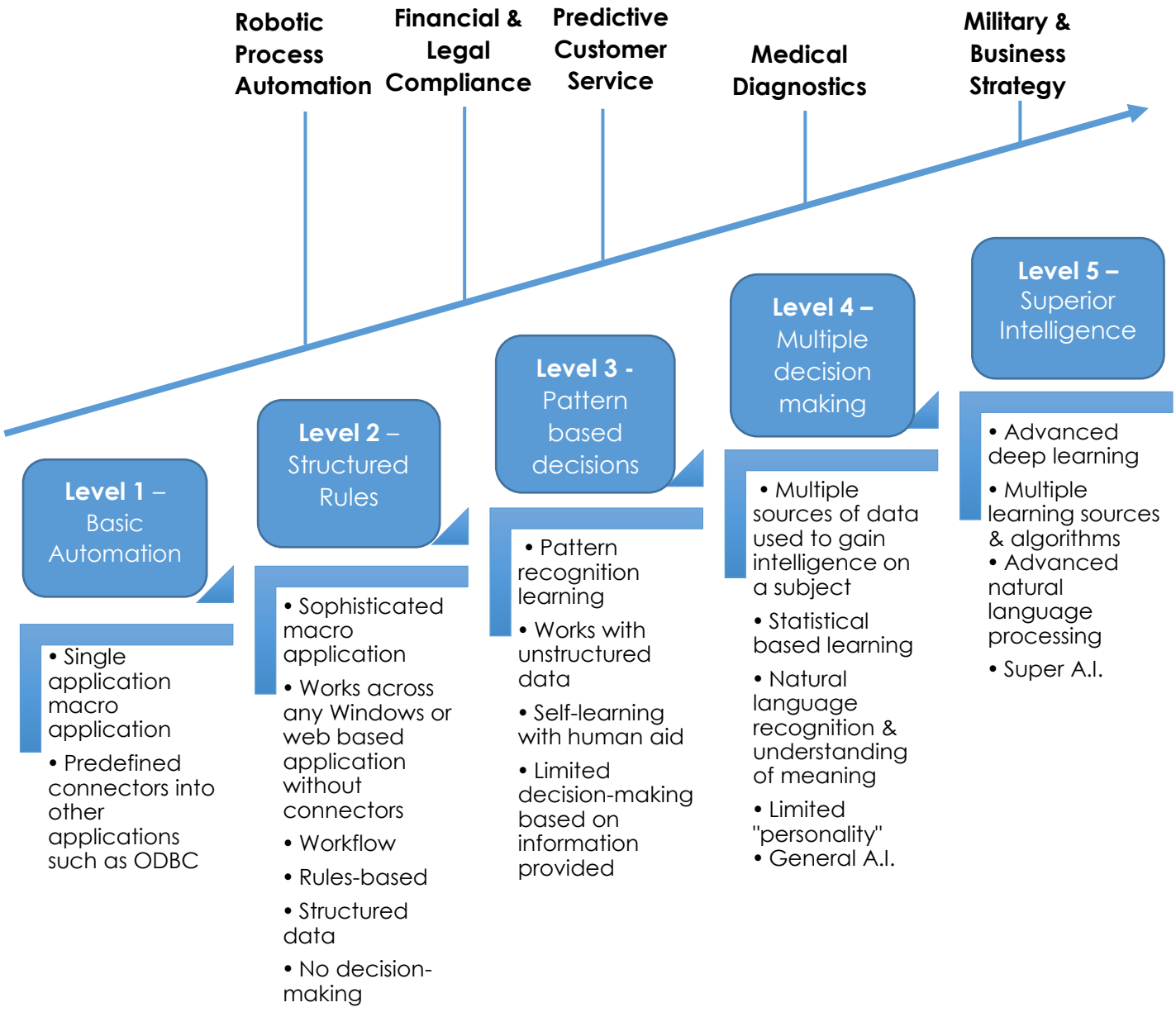

A.I. Applications Optimising Operational Performance

There are two main dimensions in the organisation where CEOs and Board members should consider when discussing how A.I. can protect and elevate shareholder value. The first area to consider is the improvements A.I. can provide an organisation by optimising operational performance. The second key area is how A.I. can improve company forecast reporting of expected future performance. This is the type of reporting that fund managers and investors require to determine value and whether the organisation fits into their risk profile for investment. Both the actual operational performance and forecasts of anticipated results are the drivers behind most investment decisions. A.I. software can optimise both these areas and raise the level of confidence in the company for the

investment community. This outcome alone should make A.I. a key discussion point for any well-governed organisation.

From an operational perspective A.I. has the capability to provide the organisation with better performance in the following key ways:

- **Speed** – A.I. software can complete a task or a process faster than a human
- **Reduced Process Errors** – A.I. can be programed to follow rules to complete a process. Once programmed the A.I. does not make programmatic errors.
- **Lower Costs** – A.I. software costs less than most human employees and can accomplish more workload than a human.
- **Scale-up Capability** – A.I. is not bound by resource constraints, geography, or physical location requirements. Since A.I. is software it has the capability to enable an organisation to scale-up their operations quickly.

These capabilities enable the operations of a business to deliver new value for customers that also translate into shareholder value over time. Reduced operating costs translate into higher gross profit margins. New lower operating costs open up the possibility for new products and services to be offered to new market segments. Faster completion of customer processes and reduced errors translate into a better customer experience. Happier customers builds loyalty to the brand and increases repeat purchases. And the ability to scale-up operations faster than with only a human workforce enables a company to accelerate their growth plans. All these potential befits offered by A.I. translate into an elevation of market competitiveness for the company. Ultimately the focus of the CEO and Board Directors is aligned with what A.I. can deliver for an organisation.

Examples of the use of A.I. to improve an operational process, by industry or by functional area, are provided in the table below. The list is not an extensive review of all current uses of A.I. in business, but is designed to give the reader a broad understanding of how companies are currently using A.I. in their operations to make their organisations more competitive in the marketplace. A sample of the vendors being used is also outlined:

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Industry or Functional Area	New Value Proposition	Vendors
Financial Services		
Account Opening, Change of Address, Loan Application Processing	Faster processing with reduced errors using Robotic Process Automation. This leads to a better customer experience and reduced costs.	**WorkFusion, Automation Anywhere**
Know Your Customer (KYC) & Anti-Money Laundering	Automation of the KYC process leading to reduced costs, better legal compliance, a reduction in commercial risk, and saving banks potentially hundreds of millions in fines for non-compliance. Customer experience is also elevated.	**Encompass Corporation**
Mortgage Underwriting	Automation of mortgage underwriting enabling mortgage lenders to build their own business rules that facilitate assessing borrower eligibility for different mortgage products.	**Desktop Underwriter (DU)**
Insurance		
New Quotes, Sales & Customer Service	Chatbots are used to provide a fully automated process for generating insurance quotes saving costs for both insurer and customers and generating new sales growth.	**FinChat Bot, Pypestream**
Claims Processing	Automated processing of insurance claims saving insurers and customers money and improving the customer experience.	**WorkFusion, Automation Anywhere**
Fraud Detection	Fraudulent insurance claims cost millions to insurers. A.I.'s pattern-matching capabilities have been applied to identify fraud and save insurers significant money.	**Intel's Saffron**
Telecommunications		
Network Management	Optimise network utilisation using machine learning to determine patterns in usage. As IoT applications are widely adopted providers will be faced with the challenge of optimising their networks to satisfy customer demand. This application will reduce costs for telecom companies and enhance the customer experience.	**Aria Networks**

Travel		
Consumer travel planning	A.I. is used to reduce the time it takes to plan for a holiday by matching users to destinations, flights and hotels by using natural language.	**Wayblazer**
Corporate travel Planning	A.I. is used to plan corporate travel plans using natural language and expense management is also captured to increase expense compliance and reduce effort for corporate travellers.	**Tradeshift**
Medical		
Medical diagnosis	Misdiagnosis of patients costs the medical industry hundreds of millions of dollars and can greatly impact the lives of people. A.I. is being used to vastly improve the diagnosis of patients using advanced machine learning and pattern-matching algorithms.	**IBM Watson & Intel's Saffron**
Sales & Marketing Functions		
Sales lead qualification	Finding and engaging with prospects to determine if they qualify for your criteria is one of the most inexact sciences. A.I. is used to optimise the conversion of prospects into qualified leads. This is designed to increase sales conversions.	**Conversica, Converse, Chatsuite**
Multichannel customer engagement	Engaging with customers across multiple channels in a meaningful way that leads to greater profitability is a challenging task. A.I. has been used to identify customer segments and apply meaningful engagement to maximise customer lifetime and increase revenues.	**AgilOne**

The adoption of operational applications of A.I. is increasing across many industries. Research companies such as Tractica are predicting that the market for A.I. systems for the enterprise sector will increase from $202.5 million in 2015 to $11.1 billion by 2024. This represents a compound annual growth rate (CAGR) of 56.1 percent. Case studies are emerging on a regular basis demonstrating the value of A.I. applications after they have been implemented. These case studies should further help CEOs and Board Directors make the necessary decisions on the A.I. strategy for their operational area.

A.I. Applications Optimising Forecasting Reporting

Investors don't like surprises, especially the ones that deliver large variances in results from reported forecasts. Not only do these variances have an immediate impact on market valuations but they also reduce the level of confidence in the organisation when future investments are being considered. Future best practices in corporate governance are most likely to include the application of A.I. to determine any future statements about the performance of an organisation. Chairman and CEO letters to shareholders will need to address whether the reporting was compiled with or without the aid of A.I. systems. Countries advocating best practices in corporate governance should be leading the way by encouraging enterprises to adopt A.I. to aid their corporate reporting. There are strong arguments supporting the relationship between the use of A.I. in forecast reporting and future best practices in corporate governance.

Current corporate practises to derive forecasts vary significantly from one organisation to the other. Some of these practices have generated predictions that are no better than flipping a coin.[3] The variances that exist in current forecast reports are the result of some key fundamental problems:

- **Human bias** – exaggerations of sales pipelines is not anything new. Sales staff tend to rate their opportunities on the optimistic end of the spectrum. Sales forecasts are then used to predict future financial performance. In addition, the operations area may increase their inventory to meet the new demand. The domino effect is apparent. The bias starting with the Sales department has a knock-on effect across all forecast reporting in the organisation.
- **Poor Methodology** – to derive a high accuracy forecast requires sophisticated methodologies. The methodology requires the application of algorithms to make sense of multiple sources of data. Few organisations are equipped with the tools and manpower required to properly complete a scientifically based forecast. The complexity of these best practices lead organisations to resort to less sophisticated methodologies for achieving forecasts. Also, the methodologies used tend to be slightly different by each department. This leads to an inconsistency in the underlying basis for how the forecasts are derived.

[3] 2016 CSO Insights Sales Best Practices Study: https://www.csoinsights.com/wp-content/uploads/sites/5/2016/08/Sales-Best-Practice-Study.pdf

- **Limited Cognitive Capability** – the intellectual capability required to undertake a detailed analysis from multiple data sets to determine probabilities of achieving forecast results are typically beyond most resources tasked with the responsibility of producing the forecasts.

A.I. applications have the ability to produce more accurate forecasts for organisations by overcoming the primary shortcomings that exist in current forecasting practices. A.I. technologies that are used for forecasting utilise some key capabilities of cognitive computing to deliver more accurate forecasts than those limited by only people and financial software for their creation. The key features utilised by A.I. software are outlined as follows:

- **Predictive Analytics** – sophisticated algorithms are used to analyse the win/loss ratios of past sales opportunities, the close rates and completeness of the sales process to generate a more accurate sales forecast. Also, in the operational forecast it can determine the optimal inventory, resources, and workload required for the forecast period.
- **Machine Learning** – the system looks for patterns using multiple sources to determine the likelihood of new revenue being realised in the forecast period. Operationally machine-learning can optimise ordering, routes used for delivery, and warehouse practices used for storage of goods.
- **Superior Cognitive Capability** – the sophistication of A.I. systems powered by modern computer platforms and using parallel computation methods[4] creates a level of cognitive capability that enables A.I. to compute all the variables to determine an accurate forecast.

The value to an organisation using best practice forecasting can be substantial. With higher accuracy in forecasting of new revenues the organisation can also operate more efficiently by maintaining the right levels of resources and inventory and eliminating wastage. With better forecasts the Finance department will be able to better manage cash flow and future investments. All of these outcomes translate into better reporting to shareholders and governance of the company. Reduced variances in forecasts gives shareholders greater confidence in the company and builds credibility in the marketplace.

[4] Introduction to Parallel Computing: https://computing.llnl.gov/tutorials/parallel_comp/

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Outlined below are some examples of A.I. software solutions being used to advance the science of business forecasting:

Functional Area	New Value Proposition	Vendors
Sales Forecasting	More accurate sales forecasting using A.I. to reduce false expectations that lead to poor internal planning.	**Amazon's XeoPOS, Clari, Saagi**
Operational Forecasting	Use of A.I. to produce more accurate forecasts in all aspects of the operations to increase efficiency and reduce wastage.	**Rulex, Logility**
Financial Forecasting	Faster and more accurate decision-making and better reporting to shareholders.	**SAP's Leonardo Machine Learning, ForecastThis.**

A.I. as Catalyst for Shareholder Value

The question for CEOs and Board Directors is not whether they should be using A.I. in their enterprise, but how to implement an A.I. strategy that meets the objectives of the business and delivers greater shareholder value. The reduction of uncertainty in financial reporting coupled with the potential for customer and business benefits from A.I. system implementations in the operations area makes A.I. one of the most strategic and important catalysts for improving shareholder value.

A.I. is disruptive technology that requires CEOs and Boards to have a strategy for its use in the business. Dismissing the topic at A.I. places the organisation at higher risk because every industry has the potential to be disrupted using this technology. Organisations with an effective A.I. strategy and successful implementations of the software will have a distinct advantage over competitors not using A.I. The end objectives are to ultimately deliver better products and services for customers to achieve excellent customer experiences, and to have a highly effective business. It's only once this is achieved that shareholders can reap the rewards from their investment in the company. A.I. has the potential to accelerate both of these outcomes and make the organisation more competitive.

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