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The Algorithmic Leader
How to Be Smart When
Machines Are Smarter Than You

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By: Mike Walsh

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The greatest threat we face is not robots replacing us, but our reluctance to reinvent ourselves.

We live in an age of wonder: cars that drive themselves, devices that anticipate our needs, and robots capable of everything from advanced manufacturing to complex surgery. Automation, algorithms, and AI will transform every facet of daily life, but are we prepared for what that means for the future of work, leadership, and creativity? While many already fear that robots will take their jobs, rapid advancements in machine intelligence raise a far more important question: what is the true potential of human intelligence in the twenty-first century?

Futurist and global nomad Mike Walsh has synthesized years of research and interviews with some of the world's top business leaders, AI pioneers and data scientists into a set of 10 principles about what it takes to succeed in the algorithmic age. Across disparate cultures, industries, and timescales, Walsh brings to life the history and future of ideas like probabilistic thinking, machine learning, digital ethics, disruptive innovation, and de-centralized organizations as a foundation for a radically new approach to making decisions, solving problems, and leading people.

The Algorithmic Leader offers a hopeful and practical guide for leaders of all types, and organizations of all sizes, to survive and thrive in this era of unprecedented change. By applying Walsh's 10 core principles, readers will be able to design their own journey of personal transformation, harness the power of algorithms, and chart a clear path ahead--for their company, their team, and themselves.

My Synopsis:

So much to think about. As I was reading this, I was looking at it from a perspective of solopreneur and how it might be useful with my clients, but also as a father and wondering how my parenting is affecting the digital ability of my kids. One key takeaway for sure is that technology is going to continue to move forward at warp speed and it will affect every person alive...whether you're ready or not.

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p. 38   All three elements are connected and self-reinforcing, like a flywheel: anticipating a user's *intentions* allows you to create more natural *interactions*, such that the system itself becomes an extension of their identity.

p. 39   The true measure of success for an algorithmic experience is that you stop noticing the algorithm altogether.

p. 39   As humans, we face constant decisions.

p. 40   ...too much choice can create a sense of paralysis and dissatisfaction.

p. 41   It is not enough to meet a customer request when it is asked...anticipating what someone may want without their knowing to ask will be the new normal.

p. 42   As they collect more and more data from our interactions, tomorrow's digital platforms will do a better job of understanding our intentions and responding rapidly to our unarticulated desires.

p. 45   ...that by designing the choice architecture (the way in which options are presented) differently, you can influence people toward making a specific choice without restrictions, prohibitions, or a change in costs.

p. 47   As you start to pull together your vision for where the world might go, remember to center your perspective on future customer behavior.

p. 48   What is more valuable: knowing who your best customers are, or identifying the ideal behaviors that maximize the value of your platform or service?

p. 49   **Aim for 10x, not 10%**

p. 49   I have no intention of making small bets. – Masayoshi Son, CEO of Softbank

p. 50   Too often, digital transformation is just digital incrementalism.

p. 50   Part of the journey to becoming an algorithmic leader is being brave enough to pursue opportunities that deliver results in multiples, not just margins.

p. 51   ...being an algorithmic leader means thinking differently about the strategic opportunities that you pursue, and the speed with which you pursue them.

p. 52   If you can structure your organization around learning models built on data loops, you will create a reinforcing cycle.

p. 52   Don't let a great idea hold you back from a better one.

p. 53   At the end of the day, we need to break a pattern. – Former Microsoft ECO Steve Balmer

p. 54   ...a more agile approach...allowing your teams and leaders to quickly adjust their plans, projects, responsibilities, and even job titles without adhering to rigid organizational structures and approval processes.

p. 55   Your organization's current most valuable asset is your data.

p. 57   ...to get somewhere interesting, first you have to follow the data.

p. 57   Data should drive your strategy.

p. 59   If you can unlock the value of your own knowledge, you can then use it as a platform to launch disruptive new ideas.

p. 62   If you think there is a chance that algorithms could transform your part of the business, it is always better to lead the charge rather than wait for marching orders.

p. 65   **Think Computationally**

p. 66   Computational thinking is an approach to solving problems and making decisions that allows you to leverage data and technology to augment your capabilities.

p. 68   Reasoning by analogy alone not only is dangerous when it comes to strategy, but also can create confusion when it comes to culture and leadership.

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p. 70   To successfully reason from first principles, you first need to identify your current assumptions and then break them down into their fundamental truths before exploring how you might create new solutions from scratch.

p. 71   Computational thinking is simply a structured, iterative approach that takes into account all the data now available for us to hone our judgment calls.

p. 72   One of the main advantages of computational thinking is that it offers the ability to separate the strategy (how to approach a problem) from the execution (crunching the data).

p. 81   ...some of the most effective leaders of the future will not only need to think computationally, they will also have to be able to express their ideas directly in algorithmic language.

p. 83   **Embrace Uncertainty**

p. 84   We tend to see situations in one of two ways: either events are certain and can therefore be managed by planning, investment, and reliable budgets; or they are uncertain, and we cannot manage them.

p. 84   ...even when it comes to uncertain outcomes, we can update our knowledge by incorporating new, relevant information as it becomes available.

p. 87   Rather than trying to be right, gamblers try to be less wrong with time.

p. 88   Developing a probabilistic mindset allows you to be better prepared for the uncertainties and complexities of the algorithmic age.

p. 90   The more you can understand about the meeting mechanics that drive good outcomes in your own culture, the more consistent results you will achieve.

p. 91   ...once you have big teams, people waste time o chasing consensus rather than focusing on creating disruptive ideas.

p. 92   ...the most significant attribute of a successful team was not the number of geniuses in it, but the degree of emotional safety.

p. 92   Google found that teams with psychologically safe environments had employees who were less likely to leave, generated more diverse ideas, and ultimately made more impact.

p. 92   Making decisions in uncertain conditions is difficult.

p. 94   ...when Google chose to acquire YouTube in a $1.6 billion deal in 2006, the decision process took only ten days.

p. 97   ...take ideas and learnings about the effective use of data from one part of the business, transform the into an algorithmic system, and apply that system elsewhere.

p. 97   The most valuable aspect of decision making for algorithmic leader sis seeking out non-obvious decision to make or bold questions to ask that have not occurred to anyone else.

p. 98   If your decision doesn't seem difficult to make, you are probably not asking the right questions.

p. 98   Decision making in the algorithmic age is a moving target.

p. 98   ...isolate the factors that really matter, have a sense of the odds, check your assumptions, make a decision, and then reevaluate when new information comes to light. And, most importantly, learn to love uncertainty.

p. 99   The real value of running experiments is not to find solutions by to uncover better questions. AI will not automate innovation; it will help leaders focus on the issues and ideas worthy of further exploration.

p. 101   **Part II: Change Your Work**

p. 103   **Make Culture Your Operating System**

p. 103   The technology is the easy part. The hard part is figuring out the social and institutional structures around the technology. – John Seely Brown

p. 104   ...the nature of business itself is becoming more complex, unpredictable, and dynamic.

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p. 104   ...nothing will change if you don't put in the hard work of thinking about how your people should interact with each other, solve problems, and generate ideas.

p. 105   ...company culture is like the culture of a county. Paris, Texas, will never be Paris, France.

p. 105   ...the elaborate, cumbersome system for managing people developed in the twentieth century is no longer appropriate for survival in the twenty-first.

p. 106   *Principles* rather than *processes* are what matter.

p. 107   The most important part of governing by principles rather than processes is doing just that: you have to stand behind them.

p. 109   The job of a leader is not to enforce their views and ensure compliance, but rather to provide nutrients and space to allow things to grow.

p. 113   ...without the right resourcing and alignment of team members and executive sponsors, there is no chance of success.

P. 115   Humans feels safer and more comfortable when we can survey the area around us (prospect) and find a good cave to hide in (refuge).

p. 115   If we have the data, let's look at the data. If all we have are opinions, let's just go with mine.   – Jim Barksdale

p. 115   Changing behavior in an organization I not easy unless you can have a fact-based conversation about it.

p.115   ...algorithmic organizations are starting to use data to understand what makes their teams and people successful.

p. 117   ...the cohesiveness of a group, or how much people talked to each other, was by far the strongest predictor of performance across almost every attribute being measured.

p. 121   **Don't Work, Design Work**

p. 122   When traditional leaders measure themselves and others, they inadvertently use metrics that preserve, rather than challenge, the raison d'être of the status quo.

p. 123   The question you should be asking is not *Are we getting results?* but *Do we have the right approach?*

p. 125   Digital transformation is a more sophisticated and intricate process of change and demands more from leaders than business process management (BPM) ever did.

p. 126   ...the more activity that can be captured by the system, the smarter your algorithms can become, and the easier it is for smart leaders to design better ways of working.

p. 132   ...stop worrying about algorithms taking away human jobs and start imagining how you might preserve the patterns of knowledge that lead from organizations.

p. 136   Machine intelligence may assist us with data gathering, analysis, and simulation, but it is ultimately up to us, as algorithmic leaders, to explore and design smarter ways of using those outputs.

p. 139   **Automate and Elevate**

p. 140   The issue for algorithmic leaders is not automation but what comes after.

p. 141   ...the demand for bank tellers increased, but their job had changed...It was not about building relationships with customers, cross-selling additional products, and performing other tasks that involved soft skills like human engagement, empathy, and judgment.

p. 142   ...the upgrading of employee skills in the algorithmic age is more of a strategic and economic necessity, rather than an employee benefit.

p. 145   ...training is not enough, unless it helps employees migrate to a new way of working and thinking.

p. 146   Workers will need to constantly upgrade themselves as machines evolve.

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p. 150   Automation is not only an opportunity to elevate your teams; it is also an invitation to profoundly imagine what you do.

p. 153   As platforms get better at identifying when a problem exists, human leaders have to be more proactive at responding to avert a crisis or seize an opportunity.

p. 154   In the next five years, what roles or activities within roles will no longer exist in your team, and what new skills or capabilities will be the most in demand?

p. 155   **Part III: Change the World**

p. 157   **If the Answer is X, Ask Y**

p. 157   When an online service is free, you're not the customer. You're the product. – Tim Cook, CEO of Apple

p. 158   It's challenging to navigate ethics in the digital age.

p. 158   As we create systems that are more capable of understanding and targeting services at individual users, our capacity to do evil will grow exponentially. And yet, this also raises the question of what exactly is evil? Is it breaking the law, breaking your industry code of conduct, or breaking user trust?

p. 164   The Facebook user agreement is a complex legal document, constantly changing and difficult to understand. The Apple user agreement is simpler, which to me indicates a more customer focused approach.

p. 164   Acting in the best interests of the customer goes beyond legal compliance; in the short term, it is unarguably more expensive. Your reward will be your customer's loyalty.

p. 165   Not only is it possible to create an algorithm that reflects the biases of the people who created it, but you can also inadvertently automate that bias at scale.

p. 167   ...data sets reflect not only the culture but also the hierarchy of the world that they were made in.

p. 167   ...the ultimate questions for fairness in machine learning are *Who is going to benefit from the system we are build?* and *Who might be harmed?*

p. 169   Algorithmic regulation is likely to be more sophisticated over the next few years, as the public starts to become more openly concerned about the impact of AI on their lives.

p. 171   ...rather than fully understanding how an AI thinks, it may be more useful to simply understand what the algorithms are optimized for.

p. 172   AI is a tool that reflects our priorities, as organizations and governments.

p. 174   Even when you automate your processes, you need to retain the knowledge of how all the pieces fit together.

p. 174   The ability to question AI systems' design and data, to challenge their assumptions, and to bring deep knowledge and domain expertise to the discussion of their future are all powerful examples of the most important question that algorithmic leaders need to master: *Why?*

p. 177   **When in Doubt, Ask a Human**

p. 178   Forward (a health company) offers a glimpse into the future, where data ad algorithms combine with a human, personal way of delivering services.

p. 179   The service equation was actually a trade-off. Either serve a few customers with a lot of choices or serve many by offering just a few choices. When the Internet and digital commerce arrived, suddenly the calculus changed. The trade-off disappeared.

p. 179   ...how do you design your products and services with actual humans in mind?

p. 180   Retailers in a digital age don't need stores, but digital retailers are building them anyway. Today's algorithmic store is not designed to simply sell things; it also serves as a platform to create relationships with customers.

p. 181   That's the point of impulse buying, after all – if you can't act on an impulse, then you probably won't.

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p. 181   While technology has generally supported the automation of business processes and the standardization of products and services, in the algorithmic age, leaders will be called upon to do the opposite: to create rich, immersive, personalized, and ultimately *human* experiences for their customers.

p. 181   Complex human behavior presents a challenge to algorithmic systems.

p. 182   The complexity and nuances of human life can be hard for computers to gauge without human intervention to provide some context.

p. 183   We can train machine learning algorithms to spot patterns and detect signals, but to date we haven't been able to give them the ability to reason from context.

p. 183   ...humans are essential when it comes to providing context to an AI.

p. 189   The successful hand off between automated systems and manual control is reliant not on processing power or accurate sensors, but on design.

p. 189   For AI to be useful, it has to solve problems in a practical way.

p. 190   The idea is that by thinking like a designer, you can make systems more useful and relevant.

p. 193   Communicating data well requires balancing an understanding of sophisticated tools with the ability to translate complex findings in a way that focuses on the most important issues and insights.

p. 194   ...automation creates an opportunity to invest more in relationships and communication.

p. 194   Machines may be able to identify the optimal structure of a deal, but if you want your investors, partners, and customers to really believe in it, you will need something more. You will need to ask a human.

p. 195   If you can automate most of your product or service delivery, how can you best use human beings to enhance the overall customer experience?

p. 197   **Solve for Purpose, Not Just Profit**

p. 197   Work gives you meaning and purpose, and life is empty without it. – Stephen Hawking

p. 198   ...a universal basic income (UBI) is unlikely to do much to alleviate one of the deeper implications of widespread automation: the loss of human purpose.

p. 200   People not only need to understand the rationale for their work, they also have to be able to see it through from start to finish.

p. 201   If you want people to come along with you for the journey, it helps if you can give them a reason for why they need to change.

p. 204   We will reap what we teach.

p. 204   ...there will be a noticeable gap between those countries that invest in the future capabilities of their workforce and those that try to focus only on short term, political gains.

p. 205   ...overreliance on algorithmic management may end up creating unease in the workplace and broader social unrest.

p. 206   ...at almost every level of the organization, we will need to start behaving more like freelancers rather than full-time employees.

p. 207   Be sure that you would be prepared to use the same talent platform you are expecting other people to use.

p. 208   The journey to becoming an algorithmic leader is fundamentally one of personal accountability.

p. 208   ...in the end, the likelihood of your organization becoming a successful, twenty-first century organization depends on the culture you create through your actions and the way you empower your people around you.

p. 210   ...what you can do is *start today* by changing the way you approach problems and make decisions.

p. 213   **Epilogue**

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p. 213   Algorithmic Leaders:

- Focus on their future customers, not their existing ones
- Design their operating model for multipliers, not margins
- Analyze problems from first principles, not by analogy
- Seek to be less wrong with time, rather than always being right
- Humanize and complexify, rather than standardize and simplify
- Are guided by user empowerment, rather than mere regulatory compliance
- Ask whether they have the right approach, rather than whether they are getting results
- Manage by principles, rather than processes
- Believe that they should automate and elevate, rather than automate and decimate
- Transform for purpose, not just profit

p. 214   They are not the leaders we grew up with, or even the ones we may have hoped for, but they are the ones we need...