CAMBRIDGE
UNIVERSITY PRESS

BOOK REVIEW ESSAY

John A. List: The Voltage Effect—How to Make Good Ideas Great and Great Ideas Scale

New York, NY, Currency, 2022, 288 pp.

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Have you ever noticed that some concepts seem outstanding initially but eventually fail? Many promising ideas have the potential to be expanded, but why are the outcomes not as expected? Consider the factors that distinguish successful expandable concepts from unsuccessful ones. This is what this book helps to accomplish.

'The Voltage Effect' by John A. List is a book written based on the several roles professor List has had in the past including a professor at the University of Chicago; consultant and chief economist at Uber and Lyft – both renowned companies; as well as his toles as advisor at a government agency. This book is divided into two parts: the first part (comprised of five chapters) delved into the factors that determine the extent to which a particular concept can be expanded; the second part (made of four chapters) covers specific matters that effectively discuss the process of dissemination of exceptional ideas. Five main factors determine how widely an idea can be implemented; these factors are comparable to the 'electric voltage' – the higher the voltage, the more electricity can be distributed. The book uses this analogy to explain why many initially promising concepts eventually failed.

Why do ideas fail to scale?

The first reason lies in the presence of a false positive. It occurs when one's concept seems valid initially, because it is not appropriately tested. The initial findings might be incorrectly interpreted, leading to failure during a wider implementation. There are multiple examples, but the drug prevention campaign called Drug Abuse Resistance Education (D.A.R.E.) was selected as the one to illustrate the phenomenon. D.A.R.E. was an educational programme that brought uniformed officers into school, who used role-playing and other educational techniques to protect kids against the temptation of drugs. Prior to implementation, the National Institute of Justice evaluated this programme, which involved 1,777 children in Honolulu, Hawaii, and found it promising; however, subsequent scientific analyses found no evidence that

D.A.R.E. had a meaningful impact. In this specific case, the anomaly that resulted in implementing a 'false positive' was caused by a statistical error. In the Honolulu study, the researchers calculated a 2% chance that the data would yield a false positive. This number might have been incorrect, or it was unfortunate that they fell within that 2% predictive error range. In any case, the false positive occurred, and there was little voltage in the D.A.R.E. programme.

Another, potentially more concerning false positive occurs when researchers or executives falsify data. The book illustrates the case of Brian Wansink – the director of Cornell University's prestigious Food and Branch Lab who had been manufacturing the results of his study for years. His motivation was based on the structure of the incentive. Academics advance in their careers and receive large research grants when their work is published in a prestigious journal. Exciting results are required to publish in these journals. As a result, they may be tempted to take a shortcut – or even engage in deception. This is known as the 'Duper effect', and it occurs when a false positive is intentionally generated.

The second explanation for ideas to fail to scale refers to the limited knowledge of the audience. This is a relevant constraint that takes place when the targeted group must be analysed in detail to ascertain whether the programme or policy can scale. The author discussed an experiment on the membership programme by Lyft – a transportation company that operates a ride-sharing platform. Different riders were offered monthly subscriptions with different discounts and upfront costs. It was believed that the membership programme would attract new customers, who would be inclined to use the service more frequently to ascertain that the benefits they gain from the discount exceed the membership cost, and consequently, the company's revenue would increase. However, this was proven fallacious; this programme mainly attracted existing frequent users. They were interested in the discount but did not necessarily increase their use of the service. Therefore, instead of earning a profit, the company made losses by providing discounts to frequent users. If the experiment had not been performed, the programme would have failed in the later stages, with worse consequences.

The third factor for ideas to fail to scale is to do with the fact that some concepts are attached to people or objects that are difficult to scale. The book quotes the example of Jamie Oliver – a British celebrity chef. Oliver opened his first Italian restaurant in Oxford and became popular. However, the problem with scaling is that if Oliver must prepare every meal, the business cannot be scaled because there is only one Jamie Oliver; he cannot cook at all restaurants simultaneously. Oliver could bypass this obstacle by using his face and brand. As people trusted him, every new branch that he opened – even though he was not the one who cooked – was trusted by customers regarding taste and quality. However, this strategy alone was insufficient. Oliver's real secret of success in scaling was that he shared his ingredients with every branch that he owned – unlike human talent, ingredients are easy to scale.

Unfortunately, these franchises eventually fell apart. Although ingredients – not chefs – can make the franchise scalable, other bottlenecks still exist. In this case, the managing director, who had a special ability to manage the franchise, and Oliver himself – not as a chef, but as an influencer – were the leading causes. Eventually, in 2019, the chain lost a lot of money, many branches closed, and thousands of employees were laid off – the chain was scalable but not sustainable. Finally, the voltage dropped, and the enterprise failed.

Then, a fourth factor is the spillover effect, which occurs under the law of unintended consequences when an action with a planned outcome creates a subsequent unexpected outcome (Carrico, 2021). To illustrate this case, the author used the example of Uber – Lyft's direct competitor. When the author worked at Uber, Travis Kalanick, the CEO of Uber, decided to raise drivers' revenue by increasing their base fare. It is logical to assume that higher base fares would increase drivers' income – however, this is incorrect. When base fares were increased, more drivers joined Uber, the market became more competitive, and individual drivers received fewer trips overall. This unintended consequence – the so-called spillover effect of the increased base fare on the drivers – thwarted Uber's intention to increase its drivers' income.

Finally, the fifth factor is the cost associated with scaling. At a smaller scale, the cost may be bearable but once the programme is scaled the associated cost increase, might make scaling unprofitable. Usually, in large-scale production processes, the per-unit cost tends to decrease. For example, when utility companies have sufficient infrastructure to distribute electricity in a city, the per-unit cost to provide services to one more household decreases as more homes are added – this is called economies of scale. However, there are situations where the average cost of production increases with scale – this is called the diseconomy of scale. Arivale is used as an example to illustrate this point.

This company provides a simple service: customers sign up and undergo a generic workup that provides a snapshot of their health-related vulnerabilities, followed by blood tests, gut microbiome evaluations, and a one-on-one session with a health coach. This service aims to make customers healthier and improve their quality of life. Upon its launch, Arivale charged customers approximately $3,500 per year to cover its high operating cost. Owing to the high price, the company could not attract sufficient customers; however, they could not lower their prices because of their high operating costs. Thus, even when more customers were gradually added, the price could not be reduced because more specialised health coaches and more expensive tests were required, and economies of scale could not be achieved. Eventually, Arivale terminated its programme in 2019. In this case, the fact that the cost could not be reduced when the service was expanded was a major reason for failure to scale the service. Nevertheless, the main factor was the inability to reduce the cost when scaled in combination with the fact that the cost was far too high in the beginning. If the service is not profitable at the beginning, it is unlikely to be profitable at a later stage of expansion. The cost, in this case, was not the problem that occurred when scaled; it was already a problem from the beginning.

Finding the right scale for an idea

Probably as interesting as the first part is the second part of the book which examines the factors that can trigger high-voltage scaling. These include the role of behavioural incentives such as loss aversion. Given that people are typically more sensitive to losses than to gains, a reward should be set up based on this behaviour. Typically, people gain rewards when they achieve specific criteria. This is the opposite of the

normal human behaviour related to loss aversion. The author proposes a clawback approach – the reward is given first, and then, if an individual cannot achieve a certain target, the reward will be retracted. This will stimulate that person's loss aversion. As a result, they will work harder to achieve the goal to prevent losing the reward.

An example of the *clawback approach* was the specific organisation incentives pursued by an electronics manufacturer in China. One group of employees was told that, instead of first achieving a production target, rewards were being given to them beforehand; however, they would be disbursed at the end of the week if they met the production goal (the clawback approach). Another group of employees was presented with a traditional bonus plan: they had to achieve the production goal to receive the money. The clawback approach outperformed the conventional bonus approach because of the power of loss aversion. This example shows that if the incentive system is appropriately set, it can impact human behaviour and promote the high-voltage effect.

Another significant factor lies in deciding when should the idea or programme be abandoned or pursued. In this case, a marginal analysis should be performed. The programme should continue if the marginal benefit exceeds the marginal cost. At Lyft, if the last dollar spent on Facebook ads yields only a tiny fraction of business compared to the last dollar spent on Google ads, the company would abandon Facebook ads and invest the entire budget in Google ads instead; however, most companies do not analyse this situation in this manner. At scale, they look at the average cost or benefit rather than the marginal cost or benefit, which leads to a mistake, as they might continue to pursue a programme that has already lost its voltage.

An important feature the book highlight is the 'critical time' to scale a programme. Given the scarcity of time and other resources, there is always an opportunity cost when attempting to scale programmes, including scaling up some other programme. Hence, the author suggests that *we should scale what we do best*. One example is Twitter, which was initially conceived as a podcasting platform called Odeo. This was not a bad idea – except that several competitors already existed in the market, and Odeo had no distinct advantages. Thus, it was decided to change Odeo – an audio blogging platform – to Twitter – a microblogging platform with more advantages. Interestingly, scaling what we do best is not an easy decision. 'What we do best' is not always obvious at the beginning. Sometimes, one idea can lead to another. We will never know what we do best until we start doing something and find out that it leads to other things that are more promising.

The final constraint to consider refers to *cultural constraints*. That is, while some organisation cultures can be scaled, others are not. Again, this point is illustrated with Travis Kalanick who initially established a highly competitive corporate culture at Uber. Employees were rewarded based on their performance and talent, which was only natural and served the company well in its early years. Only the business model, not the culture, was scaled as Uber became successful and expanded globally. However, meritocracy was soon abandoned, and those skilled in internal politics were promoted. Whereas a culture of trust and mutual respect was easy to implement when the company was small, as the company grew larger, trust and mutual respect became more difficult to achieve.

Why great ideas fail

One of the most intriguing aspects of the book is an explanation for why seemingly great ideas fail. If even one of the factors discussed in this book fails, the idea will fail when it is expanded. However, there are some issues that merit some qualification in the book.

When it comes to the false positive, it can be argued that it was obvious that if the data were misleading and produced an incorrect signal, the idea could never be successfully scaled because the initial voltage was insufficient. This is might well be the case though it's unclear what is the contribution of this chapter to readers. Some pointers on spotting the early warning signs of a false positive would help here to guide decision making on what to scale. Similarly, it is possible to argue that knowing the audience, is even a more important factor to take into consideration which provides readers with additional value. However, explaining this factor on a case-by-case basis might give the impression that this is not externally valid, and might apply to what we can learn from a specific case only. Finally, it is still worth mentioning that we still do not know what to look for in the audience. Answering this question might prove even more crucial.

In contrast, in my view, the most interesting of all the mentioned factors is whether the idea is attached to people and cannot be scaled. This seemingly insignificant factor is quite powerful, and many projects have failed to scale as a result of it. The examples given are relevant and simple to understand. The fourth factor, the concept of the spillover effect, is the book's highlight. It is a concept that many people overlook, but it is what separates losers from winners. The final factor – a cost that can skyrocket as an idea scales – is also instructive. When the programme is scaled up, the costs may appear to be minimal at first, but they can quickly escalate.

The voltage in the book

Compared with the first part of the book, the second part is far less straightforward to follow. Even though the entire content revolved around the voltage effect, there was little overlap between the chapters on scaling incentives, revolution on the margins, quitting for winners, and scaling culture. Each chapter is insightful in itself; however, the author discusses a variety of topics that at time might be hard to integrate into a bigger picture argument. Inevitably, in a book like this, some loose ends are left unresolved. For example, I am left contemplating the significance of how an idea can be successfully scaled. The author brilliantly explains the factors that cause voltage drop; I'd love to know how to raise the voltage. The author contends that any of the five factors can obstruct an idea's scalability; however, if none of these factors are an issue, can scalability actually be guaranteed?

The missing part that should be included in this book is the national cultural aspect. National culture was found to have a significant effect on individual behaviour (Bogatyreva *et al.*, 2019; Tan *et al.*, 2019). The book was written in a Western cultural context, mostly about the US. As the book gains popularity worldwide, it will be interesting to observe whether this voltage effect holds true. Another interesting aspect that can be added to the next edition is research on the voltage effect (for

example, the work of Milat *et al.* (2020)). That edition should examine the five effects presented in the book to determine which has the greatest impact on success when the idea or programme is scaled.

Will this book become a bestseller? Let us use the knowledge of the voltage effect proposed in this book to analyse and find the answer. In relation to the first factor, the false positive, I have no idea, as I am unaware of the result of the research the book publisher probably conducted. However, this does not seem to be a problem. Regarding the second factor, the audience, I believe the publisher of this book has extensive experience, and they know the audience of the book quite well. As a result, this factor does not hinder the voltage of the book. Relating to the third factor, there is no problem with the scalability of the book, as bookselling generally does not attach itself to people. The writer spends time writing a book, and once it is finished, there is no limit to the number of books that can be sold. In terms of the fourth factor, the spillover effect, I still cannot consider any such effect that might occur when this book becomes very popular. An examination of the last effect, the cost, suggests that as the book becomes more popular, the cost per unit of printing will be reduced. The book can easily achieve economy of scale. As a result, cost is not an issue for the scalability of this book. According to the analysis of these five factors, I strongly believe that the book will be a big hit. Whether this prediction is accurate or not, time will indicate.

I think that this book provides numerous insights and contains several well written and carefully presented examples that illustrate the constraints and incentives we face to scale ideas. It is one of those books that should be read, especially by policymakers who want to test new ideas and determine their wider practical applicability. It will also help those who want to create a programme and see it succeed in a larger context. The fact that the author is one of the foremost authorities in this field adds to its worth. The book includes research conducted by the author as well as other academics, which adds to its credibility. Furthermore, the author has extensive experience working with private companies and government agencies, and he has used numerous, content-rich relevant examples to back up his claims. There is no better book to read if you want prevent your great ideas fail to scale.

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