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Completed Research Paper

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Abstract

In this practitioner-oriented research, we describe how "Zerodha" entered and disrupted the Indian stock trading industry through the use of technology by overcoming the challenges of (1) developing a new business offering that is accessible to all, (2) gaining trust across the community, and (3) fostering and growing their business ecosystem. Our case-based research illustrates how an organization can enter a well-established business area and create value by (1) rethinking the business model, (2) treating technology as a business enabler, (3) empowering the end user, and (4) proactively investing in the business and community. Based on Zerodha's experiences, we provide guidelines and recommendations for other businesses contemplating to enter and disrupt an established industry by leveraging technology.

Keywords: Business disruption, digital transformation, stock trading, India

"The chase has always been in creating quality and impact—building high quality, accessible technology and services to offer to retail investors, free and open financial education, and with our Rainmatter initiative, to build a modern ecosystem within the Indian broking industry." Nithin Kamath (Co-founder, Zerodha)

Introduction

In the last two decades several industries have witnessed profound business disruptions. Whether it be Airbnb disrupting the hospitality industry or Uber disrupting the taxi industry, the guiding force behind these disruptions has been the all-pervasive Internet enabled connectivity. Moreover, most such business model disruptions have been enabled through technology namely digital platforms which aim to provide customized services to individual customers either by connecting the service providers with the service consumers or by making specialized services accessible to currently unaddressed customer segments (Hang et al., 2011; Srivastava and Shainesh 2015). In recent times we have witnessed growing number of business model disruptions that were driven or enabled by technology and Internet (Chandra et al., 2022; Srivastava et al. 2013).

We describe one such disruption in the online stock brokerage industry by an Indian firm, Zerodha, which aspired to make the online stock trading accessible to new customer segments through an innovative and disruptive business model enabled by a platform-based technology (Chirstensen et al., 2015). Until the advent of the Internet, stock trading was done by specialized brokerage firms who executed the deals on behalf of the individual customers. The orders were generally collected through either the phone or in-person, and the transaction executed manually in a stock exchange. The process was cumbersome and required a large manpower to conduct trading transactions. This limited the potential trading volumes that a broker could achieve in a single day. Brokerage firms generally adopted a commission-based model where traders would charge a fee proportional to the size of the trade —implying a lesser percentage commission for larger volumes. This was primarily driven by the fact that the brokers were limited in terms of the number of transactions that they could execute in a given day. This constraint led the broking firms to chase

high net worth clients who could offer larger trading volumes for an eventual higher commission for the same number of transactions.

With the proliferation of the Internet, the stock brokerage firms moved to the online space. However, the Internet was primarily used for automating the existing business processes for facilitating the interaction with the customers and the stock exchanges. The traditional business model rooted in soliciting the sophisticated high net-worth clients continued to remain the same. Although there were sporadic moves by some US based players to bring the small retail customers into the trading market, the brokerage industry in India continued to focus on high-net-worth clients. Moreover, because of the specialized nature of the industry, the online stock brokerage industry in India continued to be dominated by few big, trusted banks and financial institutions, which charged a huge transaction and service fee. In addition, the stock market context in India was very different compared to the other developed markets where the potential customers were generally more knowledgeable about stock markets.

Against this backdrop, Zerodha's founders were motivated to make the online trading service **accessible** to new potential customer segments comprising small-volume investors, who desired to invest in stock markets but were unwilling to pay the huge transaction fee charged by the traditional online share trading platforms. Although the move to make the stock markets accessible to retail customers was not exactly ground-breaking, it was something revolutionary in the Indian context. Zerodha came up with a business model that charged a flat rate brokerage fee, which was lower than the market rate and independent of the volume traded. The underlying idea was to multiply the volumes through efficient technology use and offer a basic service model to all, at a competitive price. The business model which Zerodha pioneered in 2010 was based on providing a fast and reliable portal that gives the customers the necessary confidence to trade through an online platform and simultaneously take the advantage of lower costs premised on potentially larger aggregate trading volumes.

However, Zerodha was constrained in its pursuit of this innovative business model by the requisite amount of customer **trust** that the incumbent stock brokerage companies already had. The well-established incumbent firms were backed by reputed financial institutions that had the expertise and experience to function in the heavily regulated Indian stock brokerage industry. Such incumbent stock brokerage firms had been operating in a rather closed ecosystem for a long time and had established necessary customer trust in a rather risky business. Clearly, to enter the Indian stock trading industry, Zerodha needed to earn the **trust,** not only of the seasoned traders, but also the small potential investors that it wanted to onboard into the stock market through its platform.

In addition to the requisite customer trust, Zerodha's high-volume low-margin business implied that the company needed to **grow** its customer ecosystem and reach out to a larger population base model (Srivastava et al. 2021). The challenge was to increase the size of the market itself rather than compete for a share of the existing market along with the powerful incumbents.

To pursue its redefined business model, Zerodha focused on the three identified challenges, namely, accessibility, growth, and trust, in a structured way in its journey from 2010 to the current times. To make the investment in stock market *accessible* to all potential customers, Zerodha focused on bringing down the transaction and service charges to almost 'zero' and making the trading interface intuitive and user friendly. Simultaneously, Zerodha adopted a multipronged strategy to foster *trust* across a wider customer base by devoting resources to educate and empower potential customers to make better informed stock investment decisions. And finally, they proactively invested in innovative technological solutions as well as in the community to increase the size of the market and *grow* their ecosystem to reach a wider customer base. Though pursuing such a digital platform strategy appears to be simple, Zerodha's journey to enter the online stock brokerage platform space was fraught with multiple impediments. Many of the hurdles faced by Zerodha were tackled through innovative and disruptive technological solutions. Our study, based on data collected from multiple primary and secondary data sources and supplemented by interviews with Zerodha executives, their customers as well as competitors, describes how Zerodha, a small start-up founded in 2010, has now become the major player in the Indian retail online brokerage market segment. This paper traces Zerodha journey since its inception until the present time, specifically how Zerodha overcame the three identified challenges in the path of its innovative business model strategy. Through the lessons learned during Zerodha's journey, we offer a set of actionable recommendations for aspiring practitioners and entrepreneurs who want to enter an already well established yet insulated industry through an innovative digital platform strategy. Although the study concerns online stockbrokerage sector, learnings

may also be useful for other sectors. The method employed for conducting our practitioner-based research, along with the different sources of data used for our analysis, is described in Appendix 1.

The Beginning of Zerodha Story

The Internet revolutionized many industries by transforming the way, business was conducted. One such industry is the stock brokerage industry. Stock brokerage firms provide services to their clients to enable them to trade shares of publicly listed companies in a stock market and generate returns. Since the 1970s, brokerage firms used to run manually, receiving orders via phone from their customers, and making transactions on their behalf in the stock market. The process used to be cumbersome and required a lot of manpower and infrastructure to conduct trading transactions. This severely limited the number and volume of transactions a brokerage firm could execute. Consequently, the firms turned to a commission-based model where they would charge a commission proportional to the size of the trade —higher the size of the transaction, higher the commission. This enabled the brokerage firms to execute larger volumes with the same fixed cost and earn more commission. Such an approach led brokerage firms to chase high net worth clients who could trade with large amounts of money resulting in higher total commission for the brokerage firm's volume for a similar trading effort. Because it was not possible for individual customers to trade in the stock market, brokerage firms played an essential role in the capital market ecosystem. With the advancement of technology and the connectivity offered by the Internet, traditional stock market brokerage firms automated the trading business by superimposing a technological layer into their well-established processes. This approach of automating the existing business processes served as an opportunity for Zerodha. The founder of Zerodha succinctly summarized this opportunity:

> *"The opportunity is that though brokerages in India are all offering online platforms they are* (still) *relying on an offline method to run it, hundreds of branches, sub-brokers, relationship managers, regional heads, zonal heads, and many more to serve clients who were all going online. The increased cost of running this offline business is passed onto the trader who is mainly online and bridging this disconnect paved way to starting Zerodha in Aug 2010. The idea was simple — stay completely online, provide excellent support, offer a fast & reliable trading platform, and pass back the benefit of reduced costs to the client."*

Despite this apparent opportunity, Zerodha's journey was fraught with several challenges. In the next section, we summarize the salient challenges that Zerodha's senior executives faced, followed by a detailed description of their journey which describes the innovative solutions Zerodha brought forward. We then present a set of actionable recommendations for senior executives who seek to embark on a similar disruptive adventure.

The Challenges for Zerodha

The intention of Zerodha to disrupt the traditional stock brokerage model in India by focusing on high volumes and low margins entailed several challenges for onboarding previously uninitiated customer segments into the stock market. The bid to increase the potential customer base translated to the three major challenges for (1) making the stock market accessible to all potential customers, (2) fostering trust in customers, and (3) growing the network and customer market segment for economic viability.

Challenge 1: Making the stock market accessible to all potential customers.

Because the dominant business model for Indian stock brokerage firms hinged on high trading volumes per transaction, their focus was on high-net-worth clients who could afford to trade large volumes of shares. Such a strategy excluded a large potential segment of retail customers who would be willing to trade small volumes of stocks. Rather than focusing on existing high net worth customers, Zerodha's strategy was to onboard the vast majority of small potential retail customers. The rationale was that because the incumbents are not keenly interested in this segment of potential customers there would be lesser entry barriers. However, for doing this they needed to make the stock markets accessible to this large potential customer base. After a deep examination of the characteristics of the requirements of the potential customer segment, Zerodha realized that it faced the challenge of making the solution accessible in three ways (1) operational accessibility, (2) price accessibility, and (3) knowledge accessibility.

Operational accessibility

For the customers, operational accessibility implies an easy to use and intuitive customer interface (Srivastava et al., 2007; Teo et al., 2006; Teo et al., 2007). Technically, the new platform should also exchange information with other complementor solutions. One of the first challenges Zerodha faced in their journey was to build and implement an easy to use and accessible solution consistent with their redefined business model. At that time, there were no easily customisable solutions available in the market and the technological ecosystem in the brokerage industry was not well-developed. Personnel with sufficient expertise in both technology and stock brokerage were very limited. Zerodha had to rely on external vendors who assisted them in building their digital products to be launched on their trading platform. Highlighting this difficulty, the Head of Education Initiatives at Zerodha remarked:

> *"We had to rely on technology vendors initially to build our solutions and it was extremely difficult because we were the first people to do so and did not have complete clarity on how to go about it and on top of this the turnaround time on our projects was very slow"*

The incumbent solutions in the market were extremely complex for an in-experienced trader and this was a major challenge Zerodha wanted to address through their solution. A typical screen interface provided by the incumbent providers contained around 24 columns of data that needed to be understood by the customer for trading efficiently. Though the customers were not using all the options for every transaction, the incumbent firms had replicated the manual process on their platforms. These options might be fine for a seasoned trader but may prove to be far too complex for a novice debutant retail investor. Speaking about this issue, the CTO of Zerodha remarked:

> *"The founders had intuitively realised that the technology available at the time was not good and new technology had to be built but they had never worked in technology and also, they did not have a technical background. They had no connections to the "technical resource" neither did they have any friends who had worked in technical fields.'*

The second aspect of operational accessibility was related to the technological ecosystem. The designed solution should interface with other systems and solutions. Such modular solutions (Nehme et al. 2015) were hard to be superimposed on already developed legacy technological solutions. The trading industry is continuously evolving because of the frequent changes in government regulations. The designed platform should be agile enough to integrate these changes swiftly and seamlessly. Such changes if not performed in a quick fashion would risk deteriorating the response time. Zerodha had the challenge of addressing this concern to maintain efficient, seamless, and agile solutions that could be quickly added on to their existing systems. Moreover, Zerodha also needed solutions that would be quick enough to address the continuously evolving technological landscape for the customers such as the growing use of smartphones.

Price accessibility

The second accessibility related challenge that Zerodha faced was to make solutions affordable for their potential customers. To achieve this low-cost objective, Zerodha conceived the idea of building a pure platform-based solution with zero brokerage on equity delivery investments and mutual funds, fixed rate brokerage on intraday and future and options trading, without any advisory services. The idea of not providing any advisory services was revolutionary because at that time no other Indian trading company had such a stripped-down no-frills offering. In fact, prior to 2010 the Indian market was not even prepared for a product of this nature. The low-cost model imagined by Zerodha was another challenge that they needed to overcome to reach the targeted potential price-sensitive customers.

Knowledge accessibility

The third accessibility related challenge was related to enhancing the level of knowledge of the targeted customer segment about stock markets. Without advisory services on their platform, Zerodha needed to educate the customers about the basics of stock market before the customers would have the necessary confidence to trade on the platform without any handholding. The relevant literature for understanding stock trading is complex and spread across different channels. But for understanding it, customers would require some basic background knowledge to start gaining familiarity with the intricacies of the industry. Zerodha realized that this specialized knowledge needs to be made available to the potential customers to

empower them to trade autonomously on the platform. This was also one of the prime challenges that Zerodha needed to address to make their new business model work.

Challenge 2: Fostering customer trust

Every new startup that ventures into an established industry or market, whether private or government, must fight hard to earn the ecosystem's trust (Teo et al., 2009; Teo et al. 2007). Zerodha, a newcomer in the trading industry, neither had the end users nor the regulator's trust. Moreover, the new business strategy aimed at high-volume low-margin did not score highly on the trust index. The new technological solution had to appear convincing and trustworthy to a skeptical regulator. The unique low pricing approach, which was relatively new, encountered a lot of skepticism in the market. One Investment Fund Manager from the Merisis Advisors – one of the top investment banks in India - describes this challenge:

> *"Initially, trying to get people to trust them was a huge challenge for them, this is one thing that is never easy in the financial services industry because people take their money very seriously and they have to be able to trust someone to let them handle their money, so naturally you have to gain trust of initial set of users and then bank on them and give them good services so that they recommend you to the people that they know and then slowly customer confidence in the platform slowly increases. Zerodha recognised this and worked very hard on this front, and this allowed them to make their space in a market dominated by larger players."*

Trust was a critical issue for the firm and management at Zerodha was aware of this. The new low-cost business model did not help —as people generally think there is a catch whenever something is offered for free. One Zerodha manager from the Legal and Regulatory Compliance Business Unit recalls:

> *"It is hard to get credibility generally in the Indian financial services market, and building it took a long time. We gained traction after the continuous effort we put in over a period of 6 years. Our value proposition was zero brokerage and when you offer something for free in the Indian market, clients naturally think that how can they have such low prices, there must be scam going on. It eventually took 7 years for people to start trusting us and be seen as reliable."*

Zerodha's leadership has from the very beginning understood the importance of trust in the brokerage business. Gaining and maintaining customer trust has been one of their key priorities throughout their journey. In all their business decisions, Zerodha had to ensure that everything they did and all their interactions with their customers should contribute to building relationships based on trust, which they realized is extremely important for their long-term profitability.

In addition to earning the end user's trust, Zerodha had to forge its way in a heavily regulated industry. Any new technological solution or new business offering will need to be approved by the regulator before it is made available to the market. Traditionally, the regulator brought changes that the industry applied to the incumbent solution. Zerodha was challenged to push new solutions and ideas to the market and had to convince the regulators to approve their innovative business model.

Challenge 3: Growing the network and customer market segment for economic viability.

When a new company ventures into a well-established industry, it must carefully strategize to grow its customer base. In 2010 the trading population in India was limited to around 700 thousand regular traders. This volume is relatively small compared to the total Indian population which recently became the most populous country in the world after crossing the 1.4 billion milestone.

Consequently, it was envisaged that Zerodha should plan to not only entice this select group of elite traders but also reach out to the untapped market segment by attracting new customers. To reach a wider population base with different trading needs, Zerodha needs to provide contextualized complementary solutions on its core trading platform. This can be done either by using inhouse developers, or sourcing solutions from external developers. Because with a new business model, the market needs could evolve quickly, developing these technological capabilities internally could be an option. But with this growth the organization could become big and lose its internal agility. On the other hand, Zerodha can decide to partner with an external organization to develop and expand its offerings and network. In both cases they need to have a clean and reliable API or interface to facilitate the growth process.

Three Phases of Zerodha to Achieve Accessibility, Trust, and Growth

The endeavor to achieve the three challenges of achieving - Accessibility, Trust and Growth was gradually surmounted over the three phrases in which Zerodha metamorphosed from a small start-up to the leading stock trading platform in India.

1) In the first phase Zerodha ***challenged the market with a disruptive business model*** and decided to move into a High-Volume Low-Margin strategy.

2) In the second phase Zerodha ***realised that technology must be a partner in business disruption***. It consequently adopted a disruptive breakthrough technological solution.

3) In the third phase Zerodha ***consolidated their position by growing and nurturing their network and market.***

In the following section, we trace the three major phases which shaped Zerodha's story since its inception in 2010. We also describe how Zerodha overcame the three aforementioned challenges in each of the phases to achieve wider **accessibility**, gain **trust** among the ecosystem members, and **grow** their network.

Phase 1: Challenging the market with a disruptive business model

Zerodha's founders came from a trading background. Prior to launching Zerodha, they traded for 10 years and lost all of their money twice. As they became proficient in trading and started generating healthy returns, they started managing wealth for other people. In 2008, during the financial crisis they had a successful run in the market and made a lot of money. After this, they decided to apply for a brokerage license, using the money that was generated in the crisis to obtain the license. In the year 2010, Zerodha started its operations in the middle of a market slump. During this period there was a huge negative opinion about financial markets, so many stockbrokers had to turn to alternative industries. The experience of the Zerodha founders made them soon realize that in the stock brokerage industry, the biggest gap in the Indian market was that no broker was leveraging technology effectively to conduct market trade. Further, no broker was offering a fair price to its customers for trading stocks. There was no relation between the size of a trade and the charged brokerage commission. The belief that trading customers should get benefit enabled by the use of technology led Zerodha to introduce discount brokering model in India, where only a small fee was charged conducting stock trade on its platform. As explained by one of the company's CEO, the name of the company – Zerodha summarizes this mission of lowering the entry barriers for potential customers:

> *"We wanted our name to suggest our objective rather than make a claim that we will make money or wealth. Our name is created by the fusion of the English word "Zero" and the Sanskrit word "Rodha" meaning barrier. Together "Zero Barriers" suggesting our objective on which the business was started."*

Consistent with their disruptive idea of high-volume low-margin, in 2017 Zerodha decided to go for Zero Equity Delivery. One manager recalls that this idea blossomed during a trip while waiting in the queue at an airport. Senior managers were discussing how they can garner additional customer attention towards their platform – to get the necessary high-volumes for their low-margin business model:

> *"... We got the idea to go zero on equity delivery. Majority of the revenues were coming from the day traders anyway."*

Once granted a brokerage license in 2010, Zerodha set out to adopt a technological platform. No one in the team at that time had any idea or experience with technology and they made their first online platform with the help of an external vendor. At that time, Zerodha was a member of the NSE (National Stock Exchange) and decided to rely on their NOW (**N**eat **O**n **W**eb) trading platform. This first version was not exactly a great product or setting the market on fire, and people just started trading with Zerodha for the low prices. The CTO commented on NOW:

> *"There are certain restrictions on NOW like it can't be customized and can be used only for trading on the NSE and not all exchanges. Nikhil and I, with our trading background wanted a lot more on the trading platform than what was available. Also, with BSE launching F&O, Commodity trading getting popular, it became imperative that we had to be able to offer multiple exchanges on one platform without increasing the trading cost to our client."*

Towards the end of 2011, Zerodha was trusted by 7000 clients trading on its platform. It was at this time that Zerodha decided it was time to beef up their technological capabilities and develop their own platform. They opted for Omnesys Technologies (the same company that developed NOW) to develop a new platform that would at least match or improve upon the best trading platforms in terms of reliability, speed, and user experience. This gave birth to Zerodha Trader, Zerodha Mobile and the web platform using HTML5. Henceforth, Zerodha got their own proprietary platform to fulfill their needs and positioning. Whilst new technologies were used and new modules were developed, they were limited in their capabilities for two reasons:

1) Tunnel vision due to the platform being developed by the same team who were behind NOW.

2) Dependency on an external vendor to maintain and evolve their new platform.

Zerodha's management understood that to achieve a real breakthrough with a competitive edge, adopting a different business model (Low-Margin – High-Volume strategy) alone is not sufficient and it was time to intertwine their disruptive technology with their strategic decision process.

Phase 2: Realizing that technology is a partner in business disruption.

It was not until 2013 finally that Zerodha managed to convince and onboard a new CTO to join forces and implement a new technological platform for the stock brokerage industry. That is when the Zerodha's real technological journey took off. The new CTO spent his first days at Zerodha meeting all the employees in the firm and trying to understand the stock trading business. He spent time reviewing the different functions inside the firm and how he could help solve their problems using technology.

Zerodha developed a small and young IS department for its core business and embarked on developing their own online trading platform in-house. The first version of Kite (their custom online trading platform) was introduced in 2015. The Kite platform was built on three characteristics features: **Minimalistic**, **Intuitive,** and **Responsive**. Firstly, Kite aimed to be minimalistic. Traditional trading screens or user interfaces were crowded with up to 24 columns of data and a plethora of less often used information. This created a major obstacle for a new user to embark on a trading journey. The Kite user interface was very light and comprised only a few fields. It was possible to drill-down and access further information, should the trader want to dive into more details. Secondly the Kite platform was intuitive and very easy to use for a fresh user. It comprised only the most common fields that a user needs to review his/her portfolio and make trading decisions. Finally, because it was built from scratch, Kite was characterised by a swift response time. Towards the end of 2017, Zerodha was able to launch Kite 3.0 version. It was a new revamp of Kite with the aim to significantly improve performance, design, and user experience. Similar to the first version, Zerodha decided to build everything from scratch so as not to run the risk of superimposing several IS platforms layers (Ross et al, 2018). Subsequently, Zerodha's senior management realised that for greater inclusivity, it was necessary to make the API available for the external ecosystem to connect, communicate, and exchange information with Zerodha systems, applications, and newly developed modules. This was made possible because the Zerodha codes developed by an able technical team was clean and well documented.

Changing Government Regulations as an Opportunity

The Zerodha story was bolstered by several regulatory changes that the Indian government initiated in the past decade. As India started shifting towards a more digital government, it started incorporating new technologies into its processes which could be used for innovative solutions (Srivastava 2015). It was not an easy task for incumbents to cope with all these ongoing changes as they were locked into aging platforms and technologies. Zerodha, on the other hand, was very agile allowing it to swiftly integrate and profit from the new government regulations. This was facilitated by the newly developed Kite Platform that embraces the latest web technologies. Of specific relevance are three regulatory changes that contributed to Zerodha's growth:

1. In 2015 the Indian Government allowed online identification through its UIDAI regulation for stock trading account opening in late 2015. This could be easily incorporated into the developing Zerodha platform.

2. In late 2016, the Government of India announced the demonetisation of all ₹500 and ₹1,000 banknotes of the Mahatma Gandhi Series (Chodorow Reich et al. 2020). It also announced the

issuance of new ₹500 and ₹2,000 banknotes in exchange for the demonetised banknotes. This was seen by Zerodha as an opportunity to onboard fresh users.

3. In 2017, the Indian government allowed e-KYC (Electronic Know Your customer) to onboard Indian customers digitally, which was leveraged by Zerodha.

Phase 3: Growing, nurturing, and consolidating the market and network.

In 2016, the team launched Rainmatter, Zerodha's investment arm. Senior executives quickly understood that in order to expand the company's network and leadership, they had to proactively invest and nurture the ecosystem. This was now possible thanks to their newly developed platform and public API. It is now feasible to communicate and connect external applications and modules to Zerodha's core application.

Rainmatter started as an ***incubator*** of new startups with complementary solutions. Then they ***financed*** various initiatives with a minimal stake. Finally, Zerodha launched the Rainmatter ***Foundation:***

> *"a non-profit fund to support individuals and organisations working on climate change, with a focus on afforestation, ecological regeneration, and livelihoods."*

Simultaneously, to democratise the trading business, Zerodha invited an old trading friend, onboard to develop Varsity. Varsity was launched in 2014 to centralise all information related to Stock brokerage and trading. Varsity consists of an online library to educate the end-user and increase the ultimate customer base. Today Varsity is a compilation of 12 modules drafted over a period of 6 to 7 years and a collection of 5 books, The Rupee Tales, aimed at introducing younger generations to the financial world.

The three main phases comprising Zerodha's story and evolution are summarized in the Table 1 below.

Period	Event	Implications
Stage 1: Challenging the market with a disruptive business model		
2010	Launch of Zerodha with NSE NOW	A new stockbrokerage player in a very closed market dominated by big incumbent competitors. Zerodha adopted the NOW platform (a platform provided by NSE).
2011	Zerodha Trader Zerodha Mobile Web Platform (HTML5) Z-Connect	Zerodha embarked on developing a new trading platform with external experts.
Stage 2: Realising that technology is a partner in business disruption		
2013	New CTO joins the team	Radical shift where IS becomes a strategic partner rather than an enabler.
2014	Launch of Varsity	In an effort to centralise all information related to stock brokerage and contribute to the community, Zerodha launched Varsity to educate, empower and increase customer base 'good karma'
2015	Launch of Kite 1 – Web trading application	First version of the new Stockbrokerage platform characterised as: "A minimalistic, intuitive, responsive trading platform"(Zerodha 2015). - Clean Code - Open API to external ecosystem
2015	The Indian Government allowed online identification through its UIDAI regulation for stock trading account opening in late 2015.	Zerodha was the first to adopt this technology and made the account opening process completely online. It has always had the smoothest account opening process since 2016 and today it takes 15 minutes and a couple of documents to open an account on Zerodha. It is the industry leader in terms of ease and speed of account opening.
Stage 3: Growing, nurturing, and consolidating the market and network		

2016	Launch of Rainmatter Fund (Raimatter 2016)	Zerodha started actively nurturing its ecosystem with three initiatives under Rainmatter: 1. Incubator of new startups 2. Investor 3. Foundation
Late 2016	Demonetisation(Chodorow-Reich, Gita et al. 2020) On 8 Nov. 2016, the Gov. of India announced the demonetisation of all ₹500 and ₹1,000 banknotes of the Mahatma Gandhi Series and the issuance of new ₹500 and ₹2,000 banknotes in exchange.	Large scale adoption of digital financial services to deal with the currency crunch. Zerodha successfully leveraged this regulatory change because of its technological agility.
2017	Allowance of e-KYC(UIDAI 2017) (Electronic Know Your Customer) by Government to onboard Indian customers digitally using adhaar (a type of id in india)	Thanks to its technological edge, Zerodha managed to embrace the e-KYC in a very seamless manner to onboard new customers.
2017	Zero Equity Delivery	In an effort to garner additional attention to their platform, senior managers, standing in a queue to board a plane, came up with the idea to go Zero Equity.
Late 2017	Launch of Kite 3	The Kite ecosystem was rebuilt from the ground up, all the way from the back-end systems, APIs, to the web front-end. Zerodha adopted new technologies and have replaced the underlying ones completely, with the aim to significantly improve on performance, design and User Experience while adding new features. Kite 3 was driven by four main objectives: 1. Enhance Accessibility, 2. Improve Simplicity, 3. Empower customers, 4. Increase Ecosystem players.
Table 1: Timeline and Key Dates in the Zerodha Journey		

Recommendations for entering and disrupting an established business

In the following section we summarize how Zerodha addressed the three main challenges to attract, retain, and increase their customer base. We group our recommendations into four main themes that simultaneously helped make the platform **accessible** to a wider customer base, **gain trust** across the ecosystem, and **grow** the organization and their network. Based on the collected data and the Zerodha story, we distill four main themes overarching 10 recommendations. These recommendations provide insights for new start-ups that seek to embark on an innovative journey to transform and disrupt an industry business model by leveraging technology. In Table 2, we describe how each of the recommendations addressed the three identified challenges of accessibility, trust, and growth to enter a new business by disrupting it through mindful application of technology. Subsequently, we discuss each of these recommendations in greater detail which can be used as a point of departure by aspiring practitioners.

		Challenges for Attracting, Retaining, and Increasing Customer Base		
		Accessibility	Trust	Growth (organisation & ecosystem)
Themes/Recommendations	Rethink the Business Model with a customer mindset	**New Business Model** R1.1: Venture into a a disruptive customer centric business model.	**New Business Model** R1.2: Know your Business (domain knowledge) and Stay close to your customers through SNSs.	**New Business Model** R1.3: Go visible and extend your reach beyond established business boundaries.
	Treat Technology as a business enabler	**Kite 1 to 3** R2.1.a: Develop a new solution that is simple and intuitive. R2.1.b: Be patient with regulators	**Kite1 to 3** R2.2: Put quality first. Build a reliable and efficient solution.	**Kite1 to 3** R2.3: Aim for a Modular architecture and stay Agile.
	Empower the end user and the community	**Varsity** R3.1: Centralise the business-related information theoretically and practically	**Varsity** R3.2: Educate and disseminate knowledge without expectations in return	**Varsity** R3.3: Make knowledge available for free and for the younger generation.
	Proactively Invest in business and community	**Rainmatter** R4.1: Make accessible to end customer many other applications and solutions.	**Rainmatter** R4.2: Keep up to your values and quality standards with all new partners.	**Rainmatter** R4.3: Go beyond your customer and devote to the community.
	Table 2: Summary of Solutions and Recommendations to Overcome the Challenges of Disrupting an Established Business			

Theme 1: Rethink the Business Model with a customer mindset.

*Executives should be ready to rethink their business model and make sure that their new product/solution is easily **accessible** to the client in terms of cost and capability. New initiatives must thrive to capture and develop **trust** across the ecosystem. Finally, the new business model should be designed to **grow** organically to foster an increased customer base.*

Recommendation 1.1: Venture into a disruptive business model.

To endeavor into a new industry, you must first carefully consider your end customers and understand their needs. Then you should try to develop a solution that is accessible to a large client base.

The traditional trading industry was a very closed one and a limited number of customers were making a living out of stock trading. The industry embraced a High-Margin Low-Volume business model that was until then accessible only to wealthy customers aiming for large trading deals. One competitor stated:

> *"Brokerage used to be an asset under management game and firms would maximise profits by squeezing maximum commission on these assets. Brokerages are purely distributors of the stocks in the stock market, a product which they have no control over, they earn a percentage commission on the trading amount. There aim is to make their users transact as much as possible because their commission hinges on the transaction value rather than the actual amount they are holding, so they try to maximise transactions from users, churn their money and generate as much commission as possible."*

It was clear for Zerodha's managers that to brave the trading industry, they had to make it accessible and within reach of a wider customer base. In its effort to transform the trading industry, Zerodha made a radical shift and adopted a High-Volume Low-Margin business model. Zerodha's offering disrupted an

incumbent Business Model and redefined the broking industry. They tore down the walls of this closed business. Henceforth, the trading industry became **accessible** to a very large population.

Recommendation 1.2: Domain Knowledge (Know your Business) and stay close to your customers through SNS.

Trust is a key element every new startup should foster and grow with its customer base. To achieve a high level of Trust, executives should prove on the one hand expertise or domain knowledge and on the other hand communicate and reach out to end customers. The best person to score high on the trust index is the CEO.

Zerodha's CEO learned on the job. After spending 10 years in trading, he gained solid expertise and domain knowledge. After launching Zerodha, he became highly active on most social media platforms and SNSs. He wrote, blogs, and tweeted his opinions about the markets and his platform publicly. This is very unusual for the head of a brokerage firm to put his opinion out in the public. It is rare for brokerage firm CEOs to voice in their opinion openly; sooner or later, irrespective of whatever they say, they could become liable and face flak from the public. Zerodha's CEO has been courageous in actively putting himself out there and addressing all issues and concerns that were thrown at him on these platforms. A Senior Business Analyst from Sharekhan, a competing firm, highlights this aspect:

> *"Zerodha's CEO is the only one in the Indian stock brokerage market who dares to go on public platforms to voice his opinion because it is a risky thing to do. He is not always marketing Zerodha but rather trying to provide quality information on concerns that traders might have about Zerodha or the markets in general. His social media endeavour has helped Zerodha's cause and increased the trust in the company and him massively."*

Zerodha's focus on remaining transparent and attempting to interact with its users has helped them in conquering the **trust** challenge massively. In today's interconnected world senior managers should reach out and be close to the end customer. Social media is a powerful platform for executives to build a solid and lasting relationship with a large customer base. This bond should be based on domain expertise and transparency with the aim of fostering **trust**.

Recommendation 1.3: Go visible and extend your reach beyond established business boundaries.

Once you rethink your business model with a view to a large customer base, you must seek visibility to grow and reach out to all potential customers. Many correlate business and company visibility with marketing strategy and advertisement campaigns. While this can provide quick and fast visibility, it is often not sufficient when not grounded in strong customer relationships.

One of the most surprising things about Zerodha's approach to 'visibility' was their decision not to spend a single penny on advertising in their early days. What makes it more surprising is that they have achieved massive growth with no promotional activity. This approach is grounded in their philosophy towards customer relationship building and their understanding of the Indian brokerage industry. A senior executive explains their decision on not spending any money on promotional activity in the early days was partly due to them being bootstrapped. They had to be careful with money and focus on the most important things first.

Zerodha's no-promotional expenditure strategy was not only motivated by their limited financial capabilities, as a startup, but more so it was rooted in their philosophy. They believed that there should be no advertisement within the stock brokerage industry, and it is not right to spend money to attract consumers this way.

Finally, once you define your new **accessible** disruptive business model and you nurture **trust** with your customer base through domain expertise and transparent communication, you can **grow** your organization and ecosystem. For that you need to be true to what you are and avoid overselling your product or solution.

Theme 2.: Treat technology as a business enabler.

After you rethink and define your new business model, you ought to seek the best technological solution to meet your new disruptive strategy. In today's world technology is an intrinsic element of every

*successful business to attract, retain and increase customer base. Technology plays a major role in enabling a new business to achieve the much-anticipated customer **accessibility**, to build customer **trust** and to **grow** the ecosystem.*

Recommendation 2.1.a: Develop a new solution that is simple and intuitive.

To achieve high accessibility rates, you need to enable your business with a new technological solution that is simple and intuitive to use. Zerodha's managers made a long-term bet on technology. While most other competitors were powered by a complex and convoluted solution, Zerodha decided to favor simplicity over complex functionality.

2015 saw the birth of the long-awaited Kite web trading platform. Kite was characterized by three distinctive features: *Minimalistic*, *Intuitive,* and *Responsive*. Traditional trading screens or user interfaces were crowded with up to 24 columns of data and a plethora of information. This created a major obstacle for a common person to embark on a trading journey.

Another important factor which contributes heavily to the overall ease of use of Zerodha's trading platform is the simple on-boarding process. They have a full online and quick on-boarding process which can be completed in 15 minutes if you have all the necessary documents at hand. One manager from Sharekhan, a competitor firm stated:

> *"It is possible to 'Do it yourself' registration on Zerodha's website. The account can be opened in 10-15 minutes on their website and it takes our sales team around a week to do the same."*

In summary, technology, when treated as a business enabler can make your new business accessible to an extended customer base.

Recommendation 2.1.b: Be patient with regulators.

Regulators are used to dictating new rules to the industry and not the other way around. When you lead the way with a disruptive business solution, you generate new ideas and solution but must wait for the regulator's approval before pushing this to the market. It takes lots of patience and time to proactively chase the regulator for approval.

In the case of the stock trading industry, there were no technical decision makers at other traditional brokers who said, "Yes we need to build up our in-house technological capacity". Technology was never the focus. They only focused on delivering financial services (on the phone, at a branch or on the screen) as dictated by the regulator. All changes emanated from the regulator and were integrated into the incumbent solutions. In positioning technology as a business enabler, Zerodha managed to ease accessibility to its platform for everyone. One manager stressed:

> *"At Zerodha we build up patience to work with regulators and slowly in incremental events. That could be this technological feature that you built but we didn't get approval for 6 months or even 8 months. For biometric login which everyone takes for granted now, we had to request for 2,5 years, write numerous letters to get the right approvals."*

Regulators are slow movers as opposed to new business owners who are eager to expand their business in the fastest way possible. Whilst business owners should be patient with regulators they should actively and persistently chase the evolution of regulator frameworks and use this precious time to build and ready their solution.

Recommendation 2.2: Put quality first. Build a reliable and efficient solution.

*Using a bespoke technological solution for the business and high-quality standard is a definite game changer when it comes to building **trust** across the ecosystem.*

From inception, Zerodha understood that technology is a key business enabler and if properly and carefully used it will play an important role in fostering trust. In the first 3 years Zerodha tried to have its own solutions and relied on external vendors. As they realised that technology is key to enabling the business, they sought to convince and partner with a new CTO to develop a technological solution internally. Technology is considered a core competency and it should abide by the most stringent quality standards. The technological department adopted the latest cutting-edge standards and wrote a clean code with proper

documentation. The idea to start development from scratch and not to superimpose new code on aging solutions was paramount in achieving a highly reliable and efficient solution.

This was achieved through different initiatives related to attracting the right talent for building their applications and use of some non-standard technologies in the industry that served their purpose of 'empowering' their customers. As customers were empowered to swiftly create a new trading profile, start trading, and monitor their portfolio, they naturally trusted a technological solution that was extremely reliable, efficient and had nothing to hide.

Recommendation 2.3: Aim for a modular architecture and stay agile.

Start from scratch with the best and latest technology to build a state-of-the-art solution with a view to the future. Many start-ups that want to start doing business quick, acquire a ready-made solution or build their business layer on an aging solution. They become locked down in an old technology that hinders their performance, agility, and potential growth.

Zerodha's management fell in this trap in the early stages. They acquired NOW, an existent technological trading platform, so that they can focus more on the business.

> *"With "NOW" all our technology headache was taken over by NSE and it worked brilliantly as we focussed only on the operational side of the business rather than the technology."*

Soon after they started operations, Zerodha's founders realised that even the best platform that existed back then did not meet their vision. To grow their ecosystem and customer base they needed a new platform that is modular and agile.

Zerodha's technical team thrived to develop a new platform with a clean and well documented code. It was then easy to make the API available for the external ecosystem to connect, communicate and exchange information with different systems, applications, or newly developed modules. Their reputation as a state-of-the-art investment platform was growing day by day.

A technological solution should be built in view of ***growth*** of your organisation as well as your ecosystem and customer base. To achieve that companies should adopt modular technological solutions and they should stay agile. From Kite 1 to Kite 3, Zerodha built a state-of-the-art technological solution ***accessible***, ***trusted*** by the end user, and that can foster organisational and ecosystem ***growth***.

Theme 3: Empower the end user and the community.

Most technological platforms focus on customer service and how to meet customer demands and needs. With Varsity, Zerodha changes the way companies deal with and view customers. An educated customer is much more valuable than a customer brainwashed with advertisement and gadgets to drive and ease consumption.

Recommendation 3.1: Centralise the business-related information theoretically and practically.

*As soon as possible make your business knowledge easily **accessible** on one single platform.*

At a very early stage Zerodha launched Varsity, a centralised knowledge hub or database, where they try to educate people on trading, financial capital markets, investment strategies and different financial products. Prior to Varsity, investment information was spread over a broad spectrum of sources. For example, if you wanted to know more about a regulatory decision, you had to browse the websites of the Indian regulators such as SEBI (Regulators of the Capital Markets) or RBI (Central bank and the regulators for Banking and Non-Banking companies).

There are a total of 12 modules on Zerodha Varsity which were developed over a period of 6 to 7 years. Think of these as 12 different books on various topics related to capital markets (Varsity 2015). On top of the 12 modules, mainly aimed at investors, Varsity produced a box of 5 books which targets the younger generation: Finance made easy for kids or "The Rupee Tales"(Zerodha 2020). Varsity initiator and leader insists:

> *"There is no paywall or even a login requirement, so in that sense, this is a true effort to democratize financial literacy."*

Varsity made trading **accessible** to a wider public.

Recommendation 3.2: Educate and disseminate knowledge without expectations in return.

Make knowledge available to all for greater good even without any returns.

The main objective of Varsity was to educate people so they can independently manage their trading activity. Varsity was available to the wider public and to all traders and for free. Disseminating knowledge for free and without calculated expectations was a deliberate strategy that played an important role in developing and gaining the end user **trust** for developing the required mindset (Shirish et al., 2023). Zerodha Varsity Leader sheds light on this:

> "*Educating the customer is one of the top priorities for Zerodha because we believe that an educated and happy customer always eventually turns out to be more profitable always and stays longer with us*"

Zerodha has undertaken multiple initiatives to actively build trust among its user base. Their users' forum trading Q&A is the second largest financial forum in the world, behind Investopedia. They also have deep customer focus within the organisation, so much so that every employee in the company, irrespective of their job, spends time on the platform everyday. They interact with the users, answering questions about not only the platform but also trading and capital markets in general. This allows them to stay in touch with their customers and increases customer trust in the company.

Recommendation 3.3: Make knowledge available for free and for the younger generation - *Good Karma.*

Knowledge dissemination should be practised to gain customer trust in your company.

Whilst it is very important to make you knowledge database **accessible** to your customers and to gain customer **trust** in your ecosystem, it is equally important to seek a wider customer base that spans beyond your boundaries. Growing your ecosystem and expanding it to non-Zerodha customers is a strategy Zerodha executives opted for. Table 3 illustrates some navigational statistic related to Varsity.

Daily Pageviews	> 85,000
Number of submitted queries	> 70,000
Number of app downloads	> 10 million
Average App Store review	Between 4.5 and 5.0
Number of certificates issued	> 45,000
Table 3: Zerodha's Varsity Data Points	

Varsity senior manager describes this a "Good Karma" and recalls:

"50% of Varsity users are not Zerodha customers. Many are coming from the competition. Some end up joining Zerodha."

Theme 4: Proactively invest in the business and the community.

Invest in the capability building of the situating community for long term sustenance and good will.

Zerodha's strong technological infrastructure and their decision to make their API's public started gaining attention. Their reputation as a modern state of the art investment platform was growing day after day. To capitalise on this growing interest, Zerodha managers decided to launch in 2016 "Rainmatter" a financing arm to invest in complementary products that can be connected to Zerodha's modular platform. With Rainmatter Zerodha pushed three types of investments. The first was driven by a financial KPI and translated into an incubator in new startups and proactively taking stakes in the companies. The Second consisted of limited investments in small companies with minimal stakes. And the third was driven by a social circular economy KPI and consisted of a foundation fostering green and climate initiatives. The above three investment initiatives grew their network and consolidated their position in the market while addressing the three main challenges of Accessibility, Trust and Growth.

Recommendation 4.1: Make complementary applications and solutions available to end customer.

Proactively invest in new privileged players who could develop complementary solutions which upgrade your solutions' attractiveness and accessibility.

After making their API available in 2015, Zerodha launched its investment arm Rainmatter in 2016 and started financing start-ups that can develop complementary solutions and connect them to its Kite platform. New service offerings inline with its strategy to make trading industry accessible to a large population, became gradually available on their platform. They hence attracted a growing customer base by making new trading solutions offering available through Kite. These investments are fully integrated with Zerodha's platform as illustrated by an investor from the Merisis Advisors group:

> *"These investments work really well because they also have access to Zerodha's API's. They have seamless login via Zerodha's credentials which solves the problem of multiple logins."*

Amongst the solutions Zerodha financed we note the following: 1) SmallCase which is qualified by the same investor as:

> *"Small Case allows users to invest in particular themes without looking into the companies within the buckets. A layman investor without investing much time can just place long term bets that they believe in."*

He summarised Streak as:

> *"With Streak users can create an algorithmic trading strategy based on moving averages and automate it without knowing how to write much code."*

Two other solutions which are made available to the end user are Sensibull (the Options trading platform) and Goden PI (the Bonds trading platform). The above four platforms are tightly integrated with Kite and can be accessed through the Zerodha website. They are considered as partners and Zerodha maintains a relatively important stake in each one of them.

Recommendation 4.2: Keep up to your values and quality standards with all new partners.

Encourage and invest in independent start ups to develop new solutions with minimal integration but make sure to set the rules and the quality standards.

In addition to the above-mentioned partners, Rainmatter invested in numerous start-ups with very minimal and limited stakes. They were open to many other companies to connect to their API. To capitalise on this growing interest, Zerodha's managers decided to launch 'Rainmatter' a financing arm to invest in complementary products that can be connected to Zerodha's modular platform. With Rainmatter, Zerodha pushed two types of investments. The first was driven by a financial KPI and this led to incubating or investing in new startups. The second investment was in a foundation fostering green climate initiatives.

Recommendation 4.3: Go beyond your customer and devote to the community.

Make proactive contribution to the broader community.

In 2019 Zerodha launched the Rainmatter Foundation that stretched its investment initiative to the social and environment cause. Rainmatter foundation plays an important role in ***growing*** the ecosystem to include NGOs, CSOs, Policy Makers etc.

The Rainmatter Foundation focuses on four main pillars: 1. Ecology, 2. Human Services, 3. Economy and 4. Pride and Identity. This is clearly summarized in the following:

> *"A non-profit organisation in India that supports organisations and projects for climate action, a healthier environment, and livelihoods associated with them."*[1]

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[1] https://rainmatter.org/

On the Rainmatter website, we can trace that between 2020 and 2022, 17 investment projects, 41 grants and 2 fellowships were instituted. To grow the organization and its ecosystem, consider reaching out beyond customers, to non-profit entities and giving back to the society.

Concluding Comments

Zerodha has been the fastest-growing online stock brokerage in India with a 200 percent annual growth for the last 5 years. This was achieved with a zero-promotional budget. The thrust on developing a new IS solution rather on building on the incumbents and on empowering their customers rather than providing them with value-added services is a distinct shift in the current focus in the industry. Following this strategy coupled with their new business model anchored in a high-volume low-margin approach and their proactive investment in their ecosystem and community, Zerodha now has henceforth a customer base of over 6 million clients[2] and a market share of more than 17%. We believe that lessons offered by our case, will be of value to entrepreneurs managing or contemplating to enter network impacted digital platform-based business.

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Appendix 1 - Research Method

This research is based on primary and secondary data collected on Zerodha over a period of 4 years. For secondary data we used Zerodha's website, Varsity Online Database, internal documentation, and other online resources. For primary data we conducted a total of 12 semi-structured interviews with three groups of Zerodha employees and stakeholders. The first group is composed of senior leaders and employees from the company. The second group consists of resources from competitor firms, and the third one comprises experienced and independent traders. The transcripts of 12 hour-long recordings were then analyzed and enriched with secondary data to build the case. We have covered a broad spectrum of interviewees to capture the trading disruption phenomena Zerodha brought forward using technology.

Data Collection Source	Type of Data
Zerodha	8 semi-structured interviews (Zerodha's executives as well as employees)
Competitors	2 interviews with employees from competitor firms
Investors	2 interviews with 2 experienced independent investors
Secondary Data	From Zerodha's websites and internal documentation
Table 4: Summary of Data Collection and Interviews	