Setting up
Enterprise Analytics in 2022

Introduction

Advanced Analytics, which includes Predictive Techniques, Machine Learning, and Artificial Intelligence, is leading the next wave of disruption. Using Analytics has become a strategic imperative, leading to a fundamental change in how a business is run. Businesses are capturing an increasing amount of data that can be analyzed using the massive computational power available today. Effective use of this data and analytics can lead to profitability enhancement, revenue growth, and in some cases, the creation of new business models altogether.

In this post-COVID economy, organizations are aware of the impact data and analytics can make in all facets of business. With the increasing pace of digitization, ever-changing demands of customers, and the rapid pace of market disruptions and opportunities, analytics has become a cornerstone of sustainable competitive advantage.

We understand that data and data analytics in any sector can be compounded, thereby, creating enormous knowledge that provides valuable insights into a specific field. However, there is still a significant gap between mature analytics practitioners and late entrants who are trying to catch up.

In this whitepaper, we provide insights to enable business leaders to discern how much time is required to set up and leverage analytics, to derive practical value out of data, as well as the key factors involved in scaling up in the long-term.

6 Issues
Organizations Face in Data Analytics

Popular streaming services use their recommendation systems to keep you hooked. Cab hailing companies use real-time analytics to match you with suitable co-riders. While digital businesses and startups have been early adopters (and hence 'leaders') of this data revolution, it is the very large and very small organizations that are usually the ones lagging.

1 Sponsorship:
No Thorough Commitment to Analytics

Clearly, it cannot be a question of technical know-how. Even the companies that have started their analytics journey long ago often have sub-par results in terms of Return On Investments (ROI). This raises the critical question — what lies at the root of this issue?

We explored the key reasons behind the low adoption of data and analytics by 'biggies' in conventional businesses like banking, manufacturing, pharma, and healthcare.

Having the right commitment and sponsorship from the top management is crucial to bring about an enterprise-level transformation. To ensure enthusiasm for analytics across the organization, sustained investment in technology, resources, and training is needed.

A long-term data-driven strategy needs to be chalked out keeping in mind the evolving business environment and organizational goals.

2 Prioritization: Techno-Maximalist Overshadows Value-Driven Minimalism

The decision to develop analytics capabilities should not be for the sake of being technology-driven, but for becoming a value-driven organization. Stakeholders need to choose from a wide range of conflicting and intertwined business problems (for e.g. process quality vs. cost) and devise customized solutions keeping in mind the potential impact on business.

The initial success depends on one's ability to focus on mature value-delivering solutions.

3 Governance Model:
Who's in Charge and Why?

Organizations need to decide on where an analytics team fits into the organization's structure. Will it be led by a business unit, or would an external partner own it? Subsequently, team structure, cost, and resource allocation need to be well thought through. Ownership and coordination guidelines for cross-functional initiatives need to be clearly defined for successful ideation, implementation, and adoption of analytics practices. Hiring for leadership roles to oversee analytics (Chief Data/Information Officer) can help establish analytics as the backbone of organizational think tanks.

How to measure the impact of Analytics

Margin Growth

40% of organizations reduce OPEX through identifying outsource / consolidation opportunities

Reduced Acquisition Costs

70% of organizations focus on reducing customer acquisition via multi factor media planning and efficient marketing mix

Longer Retention

30% of organizations work on longer retention by identifying and improving on high churn audience

4 Analytics Infrastructure:
Haphazard Alignment with Business Goals

The current analytical structure of most organizations is haphazard, where data is studied in small pockets (on regional, business function levels, etc.), without an overall strategy and roadmap. While such an approach was just fine until the last decade due to IT constraints, the advent of cloud solutions has now made analytics scalable and deployable across the organization. Companies now need to align analytics initiatives with their long-term business goals to derive value from analytics efficiently, cost-effectively, and continuously, thus providing the benefits of synergy and scale.

Analytics solutions need to be customized for every company, for what has worked in the past for others might not necessarily work for your business in the same shape.

6 360° Analytics:
Unnecessarily Complex Solutions

The success of any data-driven plan lies in the organization's ability to identify business problems, formulate those as analytics problems, and choose wisely from available solutions that are spread across digitization, advanced analytics, data science, automation, and reporting. Often, there is a tendency to overlook simple yet effective solutions. To judiciously manage ROI, short-term benefits of available resources and data should be considered alongside the long-term advantages of aligning resources and data with clear goals.

Simple solutions are necessary as stepping-stones for developing advanced analytic capabilities.

5 Unclear Target-Setting:
False Expectations Cloud Reality

While analytics may seem like a technological transformation, it is closer to a tech-enabled transformation of business processes and strategies, where immediate results might not be imminent. Hence, it becomes important to set realistic expectations and timelines with a clear roadmap. A good yardstick could be to compare the current and desired state of capabilities with leading industry practices and benchmarks, hence putting you in a better position to plan investments and expected returns.

6 Approaches
to Tap Big Data

Value creation from data will be one of the central business themes for this decade and ultimately, it is all about data!

Blooming businesses generate data at the speed of light. Data, however, is just a starting point. It needs active harnessing and effective analysis to fuel an organization's growth. Just as sunlight has the potential to power the entire world, data too contains vast, untapped potential to power business growth. Businesses need to better harness data to ensure the smooth functioning of their analytics engine, which in turn churns out the insights necessary to spearhead further advancement.
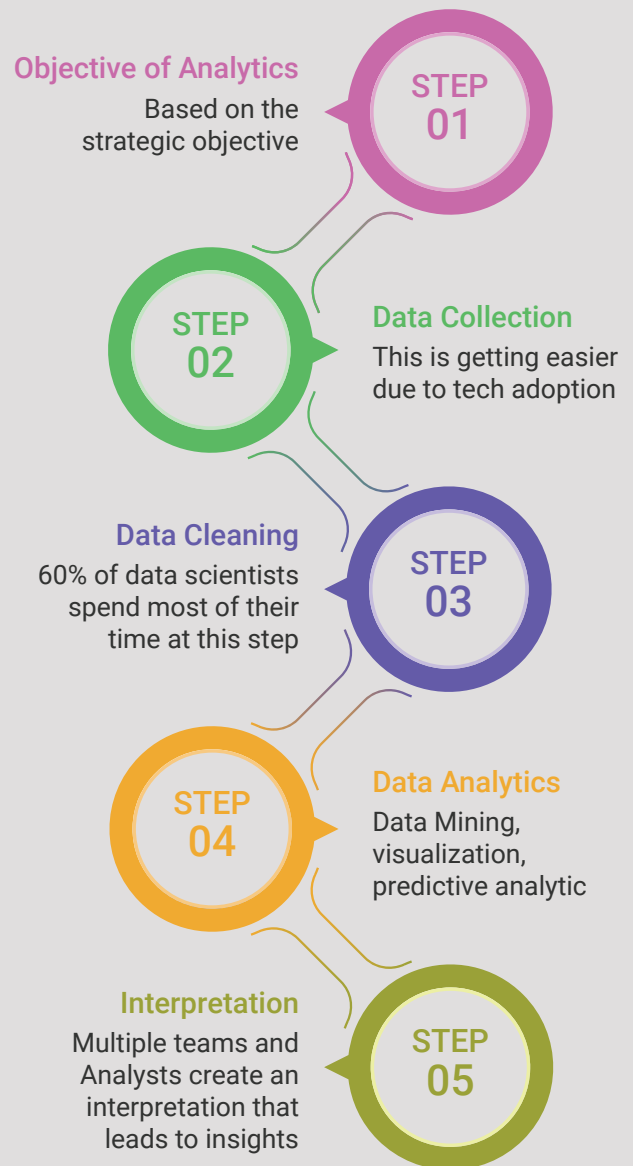
The current approach to data collection and management poses the following challenges that need to be overcome to tap into its massive potential.

Businesses need to better harness data to ensure the smooth functioning of their analytics engine.

1 Data Collection: What Types of Data Create Valuable Insights?

While data may be overflowing in digital businesses such as telecom, e-commerce, and banking, most conventional businesses are still struggling to collect valuable data about customers. Organizational data collection practices for conventional businesses are typically either non-existent or disordered. Moreover, awareness about value-based data collection (data that can and should be collected) is lacking. Often, data from external sources (for e.g. market research, competitors, and partners) is also missing. As we move forward, data needs to be treated as a strategic asset as opposed to an IT liability, and new sources of data need to be discovered and nurtured.

For cultivating insights relevant to one objective

Objective of Analytics
Based on the strategic objective

STEP 01

STEP 02

Data Collection
This is getting easier due to tech adoption

Data Cleaning
60% of data scientists spend most of their time at this step

STEP 03

STEP 04

Data Analytics
Data Mining, visualization, predictive analytic

Interpretation
Multiple teams and Analysts create an interpretation that leads to insights

STEP 05

2 Data Digitization: Conversion of Data to the Cloud

While a hundred percent shift to digital might not be possible for every business, technology like Intelligent Automation and Optical Character Recognition (OCR) have been game-changers. They enable direct conversion of physical printouts, hand-written forms, invoices, receipts, etc. into usable forms. A lot of research in areas of Intelligent Automation and OCR tools has accelerated digitization. Furthermore, there is a need to create centralized data repositories, moving away from functional and regional silos. This has led to the creation of data lakes and data warehouses in some organizations, though one needs to be careful to map out the right data to be centralized along with the requisite quality to ensure data value creation without burdening the IT infrastructure.

There is a need to create centralized data repositories, moving away from functional and regional silos.

4 Data Quality: Build a Seamless, Interconnected Data Warehouse

50% of businesses cite poor data quality as a major hindrance to insight generation. The lack of a centralized data management approach often leads to incomplete, delayed, and discrete data. Excessive reliance on manual processes for data logging, maintenance, and updates creates issues such as inconsistent formats and data gaps. Often, there is no single source of truth since data streams in from multiple sources, including outdated Customer Relationship Management (CRM) and Enterprise Resource Planning (ERP) tools. This leads to data integration and validation issues. An automated stream of noise-free, interconnected data needs to be put in place by businesses in the form of a data warehouse.

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3 Unstructured Data: Make Use of All the Data in Your Hands

On average, unstructured data in an enterprise adds up to about eighty percent of the total organizational data. This is exactly where most deep learning and neural networks are being used. Data, in the form of text and images, is finding some interesting applications in chat-bots, computer vision, automation, and fraud detection, but is often overlooked.

Organizations need to move beyond legacy transactions and record-keeping to fully leverage the potential of data.

# 5 Data Security and Privacy:
Tighten the Policies

With greater power comes greater scrutiny. It is no wonder that organizations now face constant legal and compliance concerns with tougher data privacy laws (for e.g. GDPR) coming into the picture. The underlying assumption of data should be to serve consumers better. Thus, consumer-facing businesses with sensitive user data, such as personal and financial details, need to rethink data usage patterns. Organizations also need to address data security gaps by formulating internal policies and controls for data ownership, cybersecurity vulnerabilities, and the risk of data loss. However, completely transparent corporate data governance practices are still a distant reality.

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6 Data IT and Accessibility:
Use Centralized Cloud Computing Solutions

Just having a website or digital accounting system will not take you far. Despite the pace of advancement in big data and cloud technologies, IT systems need to keep up with the expanding volume, velocity, and variety of data. More investments are needed to develop data infrastructure, train staff, and integrate or migrate systems. Moreover, data is not accessible to people involved in making, executing, and monitoring business decisions/outcomes due to multiple issues including knowledge, permission, and tools to access data. In such a scenario, it is advantageous to make use of existing cloud services instead of developing personal capabilities.
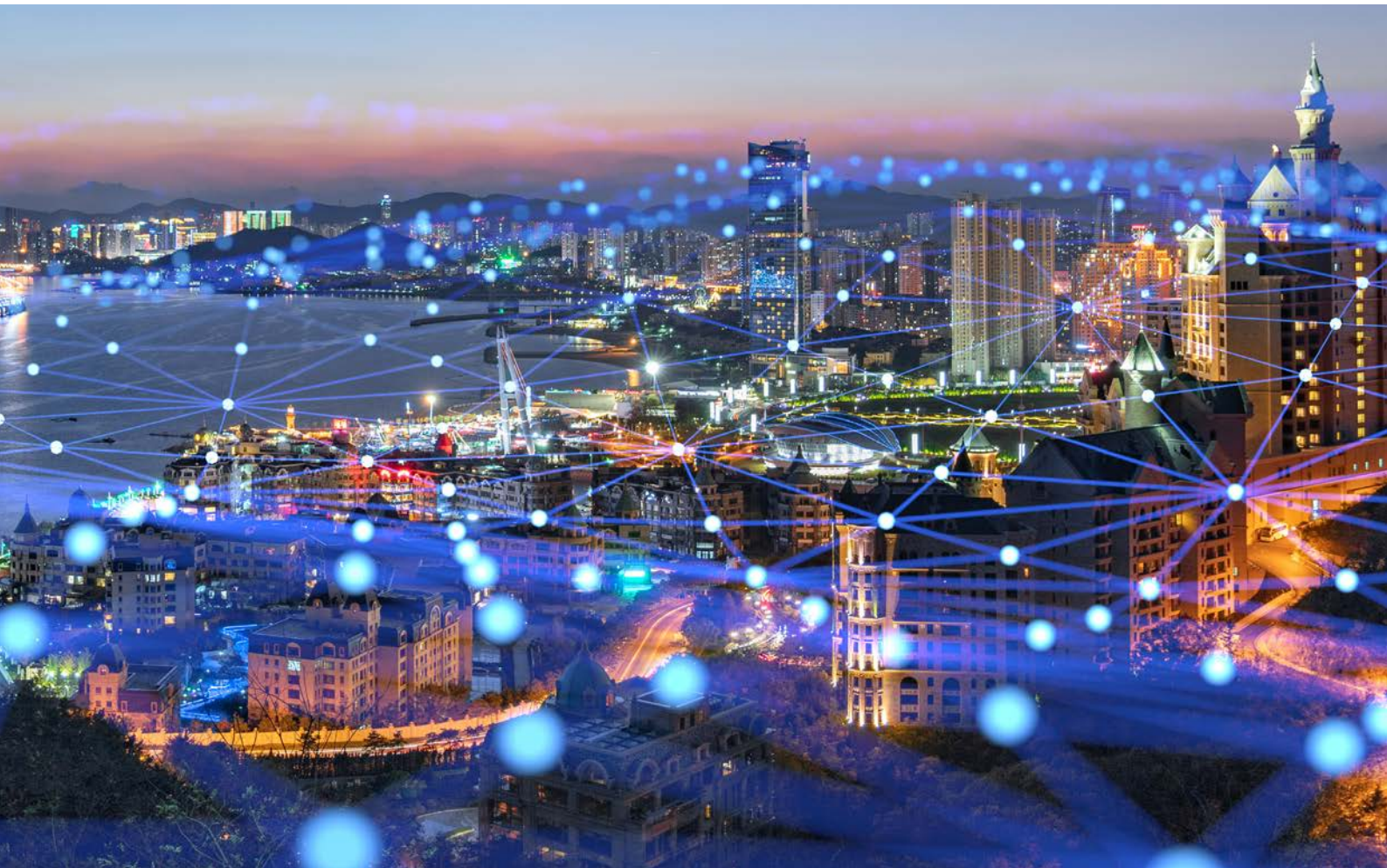
Implementation
Turning Insights into Action

Is the buzz around analytics dwindling? Once hyped as the game-changer for every enterprise, is analytics now letting businesses down? While investments in analytics are at an all-time high, impact (i.e. improvements resulting in an increase in revenue or a decrease in costs) is still low. According to a survey, 47% of organizations reported little or no improvement in their competitive positioning from analytics initiatives. The question that remains then is that when data and technology made the boom of analytics look so promising, where did things go wrong?

The answer lies in the way analytics is being adopted in the current business scenario. Impact at a scale needs implementation at that scale, and that is what is missing in the big picture of data. Limited adoption and integration have been cited as the biggest reason for the failure of analytics initiatives. While 80% of companies agree that data should be at the heart of all decision-making, only 31% have significantly restructured their operations to help do this.

To understand where we are lagging, it is important to look at challenges that restrict integrating analytics within organizations.

1 Decision-making:
Power Culture Imbalances Perception

Historically, businesses have been known to be governed by gut and intuition far more than data and rigor. This was primarily because data was either sparse or not available, and executives used wit and intuition along with years of learning and experience to uncover patterns from data. This old-school HIPPO approach – the 'highest-paid person's opinion' – needs to reshape itself into something more objective. We have to move to ask the right questions of data instead of giving the right answers intuitively. While such a seismic shift might not be possible all at once, augmenting and validating intuition with analytics, and moving away from reliance on gut and thumb rules is crucial if analytics has to yield tangible results.

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Investments in Analytics

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80% of companies agree that data should be at the heart of all decision-making

31% have significantly restructured their operations

2 Arcane Analytics: People Don't Trust What They Don't Understand

Another major challenge in frontline adoption of analytics finds its roots in the lack of confidence in analytics. Although there are stalwarts from Silicon Valley advocating a strong case for a digital and data-centric approach to every aspect of business, data culture defines the very backbone and core IP of these tech-savvy businesses. This isn't true for many conventional businesses though, for whom success in analytics has been limited only to a few beta tests or smaller slices of business.

According to a recent global survey of information technology and line-of-business executives, less than half of the respondents were confident of selecting and integrating AI technologies into their existing IT environment. Analytics is still being conceived as a 'black box' by business decision-makers and they don't have a behind-the-scenes understanding of it. Some of this skepticism can be attributed to complex analytical models and the rest to lack of skills in business individuals to interpret analytics. Driving change management by upskilling resources and making specific attempts to tie decision cultures and processes with data can help analytics initiatives gain traction across the enterprise.

3 Analytics Implementation: Operations That Give Murky Results

Many times, the ownership of implementation is not very clear between analytics, IT, and business units, and this can lead to limited tangible results from the initial promising pilots. Often, what can be easily analyzed might not be so easy to implement and vice-versa. Operations are not as dynamic as analytics. Hence, it becomes essential to capture quick wins, build on the initial momentum, and trust gains to implement advanced analytics solutions.

Projects with the highest visibility, highest business value, and lowest execution complexity can be a good place to start to understand the impact analytics can generate.

73% leaders believe their companies are not analytics-driven &

77% say they are not capable or comfortable accessing and using data from their tools and resources.

95% of them said that cultural, organizational, and process challenges

Key Performance Indicators
Learning from Measured Mistakes

One of the biggest e-commerce companies started as an online bookstore, and now it has revolutionized the retail ecosystem completely. A streaming platform was previously a DVD rental store, and now it is giving giants in the media industry a run for their money. When was the last time you witnessed a new neighborhood bookstore or movies-for-rent store run so successfully? What makes e-commerce giants continuously evolve, adapt, and grow? Do you think it is the fact that they have digital platforms? Well, a local bookstore can have a website too. Is it the first-mover advantage then? Not entirely, because we were still consuming media content online before the likes of Netflix came into the picture.

What, then, has been the biggest predominant factor in the Darwinian upshot of these platforms in the past decade? The answer, clearly, is data. It is the ever-evolving use of data to learn and create differentiating capabilities before everyone else, that has given these platforms their edge. Digital, in fact, is just an idea. The revolutionary change lies in the continuous and self-sustaining use of analytics to generate new revenue streams, gain insights into consumers, impart the ability to scale, and, among other things, make supply chains more efficient.

Measurement and Attribution:
Can't Measure, Can't Manage

While this aspect may seem self-explanatory and primarily significant in theory, its importance is often diluted in practice. Resultantly, when the impact of analytics is not accurately measured, further investments in analytics seem unjustified. An effective performance measurement framework that covers all levels of the organization, tying matrices directly to tangible business value, and indirectly to frontline adoption and other operational goals, is vital to benefit from analytics in a practical scenario.

These assessment scales can be of varying types, including:

Operational Measures including a reduction in turnaround time and improvement in productivity. 1	**Analytic Measures including** accuracy, robustness, coverage, and predictive power of models. 2
Process Feedback including ease of implementation, scalability, user-friendliness, customer satisfaction, and competitive edge. 3	**Financial Measures** including cost management, revenue growth, profit margins, and return on assets. 4

Root-Cause Analysis:
Ask Difficult Questions

With the advent of machines and deep learning, analytics has become more of a 'black box' for business managers. Hence, the tradeoff between accuracy and interpretability has become very important. While, for some use-cases (for e.g. credit-risk modeling and autonomous driving) accuracy is of utmost importance, there are other cases, when decisions are linked with underlying operational processes (for e.g. inventory planning or sales forecasting), where it is important to understand the key factors driving the predictions. It not only helps business managers understand such models and validate business hypotheses but it also goes a long way in establishing the credibility of analytics as a key tool in decision-making going forward.

Unfortunately, most of the analytic focus lies in 'What' did/does/will happen? Often, it is convenient to mistake correlation for causation and to find misleading patterns in the data. For analytics to be able to add value to a business, understanding the 'Why' is most important. Business stakeholders must be in constant touch with analytic teams to understand the key underlying factors, and identify the elements that can be changed and to what extent, along with the outcomes of such changes.

For example, while a Machine Learning model might attribute low car sales to unusually low footfalls or low inquiries in car showrooms, there is a need to dig deeper and understand factors causing this change in the market and consumer patterns.

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The Future
## Stay on Your Toes, then Scale Up with Outside Help

While it is crucial to get the wheels rolling by deploying solutions on hand, it is equally important to fine-tune existing analytics solutions continuously. ROI of an implemented solution could degrade with time. Hence, it is imperative to assess ROI and adapt existing analytics models and (BI) solutions continuously to adjust for changes such as reduced predictive power and shifts in underlying variables. While scaling up analytics prototypes, analytics models need to be personalized to account for variations across regions, markets, product portfolios, and consumer segments. There is also a need for adopting new analytics initiatives in resonance with the changing business environment and goals.

ROI of an implemented solution could degrade with time.

Continuous Improvement:
A Cycle of Perseverance

Analytics needs to be conceived as a continuous journey of value discovery through the exploration of new business problems, analytical tools, and frameworks. Each analytics initiative must be ranked objectively, and its impact should be directly evaluated based on its potential value to the business. The effect of such an action can also be judged through derivate parameters such as the magnitude of leadership interests, operational feasibility, and alignment with business strategy.
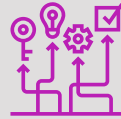
For best results, organizations need to continually gauge what is working through fast-paced experimentation and optimize their analytics approach accordingly.

Setting up analytics is only half the battle won. Implementing analytics in any organization is an incremental journey comprising a mindset and strategic change rather than a one-time technical or team setup. Analytics needs to be ingrained in an organization's DNA through an increase in adoption and deployment across strategic decisions and operational processes.

Understanding the above-stated execution challenges has become extremely important as organizations take small steps towards data-driven decision-making. Bringing in an external partner that can handhold you through this paradigm shift can accelerate the transformation process, and help an organization harness the revolutionary power of data more significantly than ever before. An analytics service provider is an ideal partner, providing support to businesses in this transition from data-curious to data-smart.

About Nexdigm (SKP)

Nexdigm (SKP) is an employee-owned, privately held, independent global organization that helps companies across geographies meet the needs of a dynamic business environment. Our focus on problem-solving, supported by our multifunctional expertise enables us to provide customized solutions for our clients.

We provide integrated, digitally driven solutions encompassing Business and Professional Services, that help companies navigate challenges across all stages of their life-cycle. Through our direct operations in the USA, Poland, UAE and India, we serve a diverse range of clients, spanning multinationals, listed companies, privately-owned companies, and family-owned businesses from over 50 countries.

Our multidisciplinary teams serve a wide range of industries, with a specific focus on healthcare, food processing, and banking and financial services. Over the last decade, we have built and leveraged capabilities across key global markets to provide transnational support to numerous clients.

From inception, our founders have propagated a culture that values professional standards and personalized service. An emphasis on collaboration and ethical conduct drives us to serve our clients with integrity while delivering high quality, innovative results. We act as partners to our clients, and take a proactive stance in understanding their needs and constraints, to provide integrated solutions. Quality at Nexdigm (SKP) is of utmost importance, and we are ISO/ISE 27001 certified for information security and ISO 9001 certified for quality management.

We have been recognized over the years by global organizations, like the International Accounting Bulletin and Euro Money Publications.

Nexdigm resonates with our plunge into a new paradigm of business; it is our commitment to *Think Next.*

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