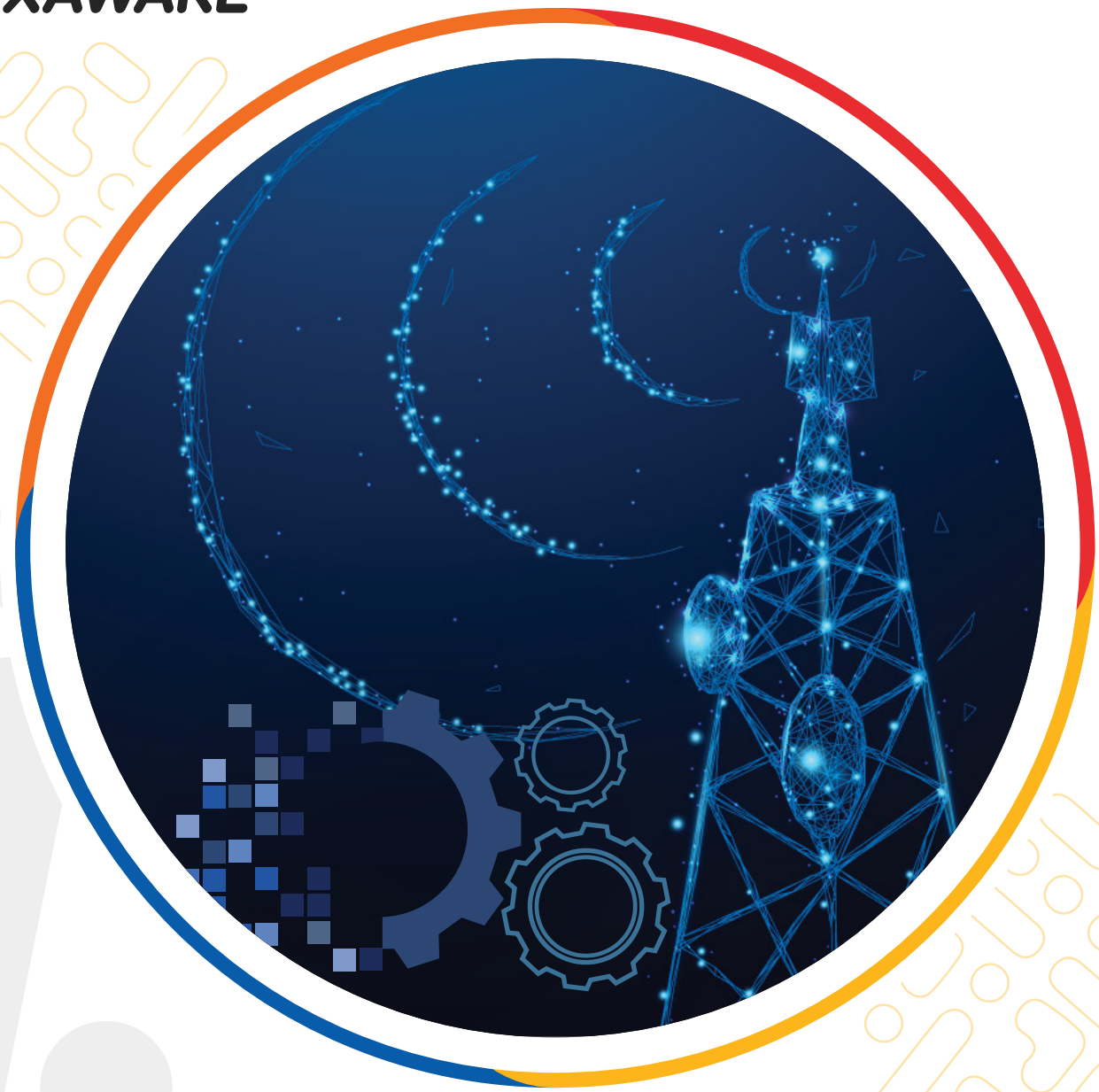
HEXAWARE

POINT OF VIEW



A Race to the Bottom?

How telecom majors can rise above shrinking margins and intense competition

Over the years, the telecom industry has evolved and served value-adds like the internet, mobility, and television to their repertoire, to become global conglomerates. Contrarily, the past decade has proven to be a turbulent one for the industry with accelerating cost pressures, declining revenues, scams and relentless competition.

To address these issues and drive revenue growth, companies are looking at inorganic growth models, which borderline into unethical practices. There are Mergers and Acquisitions (M&A) that lead to a vertical surge customer base that further enables quick up-selling and cross-selling of different augmented services. According to a research by CRISIL, telecom majors have doubled their M&A activities in the last two years. Take for example the Vodafone Group's acquisition of Kabel Deutschland Holding AG for 7.7 billion euros ($10.1 billion), which helped Vodafone gain access to Kabel's 8 million user base. Another crucial example is that of AT&T's merger with Time Warner. These are just a few among countless other instances.

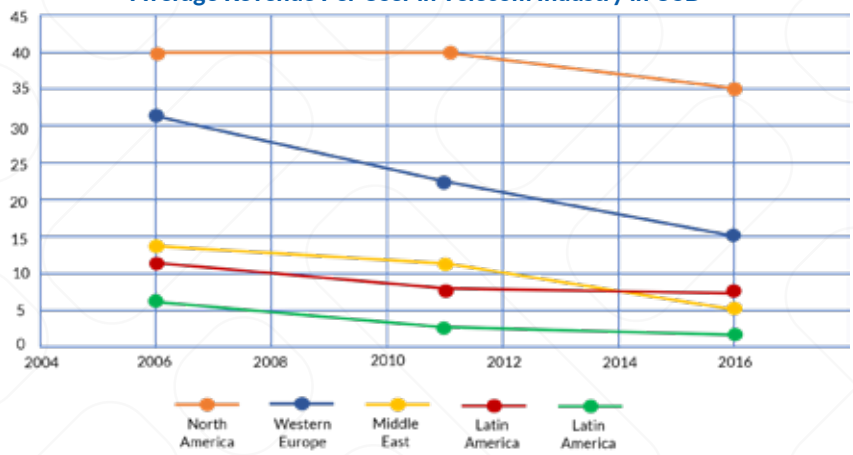
A new trend that has emerged globally is luring customers to 'port' network and tapping on customer dissatisfaction towards their service providers, by providing better calling plans. This has led the customers to move from a "Contract" model, with a carrier to their own wireless device or to another carrier at any given point in time. Thus, there is an industry that has shifted to an unethical rivalry with fellow network providers, by publishing different plans and creating serious dents in revenues.

Even when telecom providers are consolidating their M&A's, the customer has now moved to a new legion of emerging disruptors, such as Over the Top (OTT) players. We Chat, WhatsApp, Skype, Facetime etc. are the most preferred modes to communicate, leading to revenue reduction (SMS, Video Calls) for Telecom operators. To maintain their customer base and stay competitive, Telecom operators have resorted to aggressive sales, targeting other consumers causing higher churn rates, while modernizing service offerings and enhancing customer experience, which has helped them in increasing the 'Top Line' and reducing 'Bottom Line expenses.

Despite a plethora of new services, the average revenue per user is declining globally. The increase in data revenue has not been able to offset this decline in ARPU.

The below graph shows a steady fall of Average Revenue Per User (ARPU) across different regions:

Average Revenue Per User in Telecom Industry in USD



Though the above graph illustrates a declining trend in ARPU, there are a few strategies which can help telcos increase their revenue base.

- **Personalization:** Having access to customer data helps agents to better service the customer. With advanced analytics, customer preferences and usage patterns like payment history, location, service consumption habits etc. can be easily analyzed. This will help agents to proactively provide customized offers that better suit the customer. When information is readily available, agents can offer the right solution and work on eliminating the pain points of the customer. A personalized approach is far better than a generalized one. With Hexaware's **'Trusted Advisor'** approach, personalization becomes easy. Trusted advisor is the one-stop solution for efficient customer life cycle management. This model entails a dedicated service manager for each premium client and for every channel of communication - inbound call, outbound call, email, chat, etc. A service manager analyzes the usage pattern of the customer and provides the best-fit plan. It also helps the service manager to upsell and cross sell based on the intelligence provided.
- **Value-Added Services:** Telcos can help increase ARPU by providing value-added services to customers in areas of gaming, music subscriptions, on demand videos, movies etc. Telecom companies should understand their unique customer segments and constantly evolve their value-added services to give maximum value. Telcos should provide these services through preferred delivery channels like SMSes or customer calls, etc. Telcos should provide app-based services to provide an easy and convenient experience. Telcos can partner with service providers in their respective offerings to build trust and credibility for themselves.
- **Tapping the B2B2x market:** B2B2x is a new segment where service becomes a part of the client's value chain. This segment offers great potential for revenues. According to Arthur D Little (ADL), B2B2x market could reach a value of **USD 276bn globally by 2020**. Telcos need to move beyond traditional offerings and provide digital services to better serve customers' ever evolving needs. For example, Deutsche Telecom has taken an active step in this direction with recent partnerships to advance voice-controlled smart homes with Amazon's Alexa. Telcos already possess the digital infrastructure needed to provide content, network, mobility and IoT services to customer.

- Through the above solution, telcos can work towards increasing their top line. To sustain these revenues and impact their bottom line, industry decision makers must introduce automation and intelligent automation to magnify their capabilities exponentially and enhance end customer experience.

Automation: Telecom companies should be ready to adopt changes in their ways of doing business, going digital. This is applicable for both front office (customer service) and back office. They must provide an omni-channel experience for all customer interactions online or physical, to make sure that all customer activities are maintained in a single database, thus making interactions with customers simpler. It helps all channels to move to low-cost models in terms of extended timings. Relationship managers must lead their activities to enhanced customer experience and satisfaction.
To ensure enhanced customer experience, automation needs to be armed with data analytics to ascertain the right customer segmentation and right positioning of the product.

A few key process automation arenas that are swiftly gaining impetus in telecom sector are:

- **Robotic Led Process Automation (RPA) -** RPA enables telcos deal with huge volumes, by automating repetitive and rule-based operational processes. It also helps them integrate with applications/platforms running on legacy. According to a research paper, a digital robot can replace 10 human administrators and cost as little as $10,000 to $15,000 per year, for activities including deployment, maintenance, and license fees payment. Few areas which can be automated are:

1. **Order Validation and Order Entry -** Robots help in extracting information from the sales form (PDF or electronic form), validate information based on the rules and reject in case of any discrepancy. Post validating, it creates orders in CRM and feeds into the system. This reduces any order entry error.
2. **Service Assurance -** Once a complaint is raised; bots gather remaining information from different applications to ensure escalated issues are promptly resolved. RPA provides a comprehensive view on a single screen, which accelerates the process of query resolution. It also gives tips to respond to a query quickly.
3. **Billing -** From invoice creation to invoice processing, RPA can play a major role for telecom operators. Bots can update accounting records, prepare and deliver invoices from right emails. It can also validate accuracy of bills by pulling information from various systems.

Using Robotic Process Automation, telecom companies are being benefitted in the following ways:

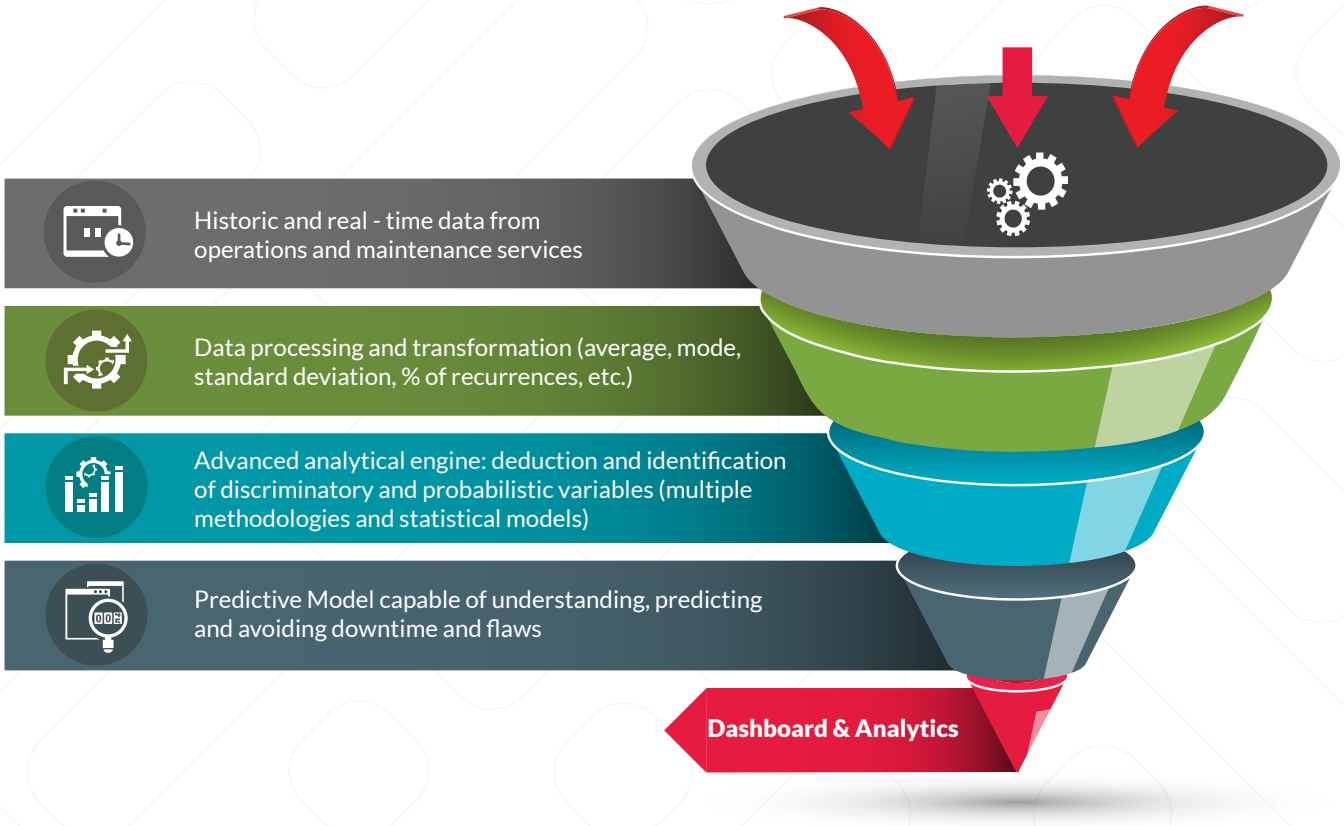
1. **Reduction in Implementation Cost:** Cost of implementing RPA is marginal compared to BPM (Business Process Management) or ERP (Enterprise Resource Planning). RPA licenses can be used for multiple front and back office work, leading to reduced costs and better ROI.
2. **Higher First-call Resolution:** RPA helps agents by providing relevant information at the right time, which allows them to focus on customers rather than spending time in retrieving data or navigating to different applications. In a study conducted by Service Quality Measurement Group, it was established that for every 1% of improvement in FCR there is a corresponding 1% improvement in customer satisfaction.
3. **Quicker Scalability:** RPA allows creation of software that can be used across different locations and business units, thus enabling quicker scalability.
4. **Top Customer Satisfaction Scores:** It is a form of direct feedback from the customer on the company's performance. The more engaged an agent is with the customer, the more it is evident of the value they place on the customer. With RPA, agents can offer the right solution effortlessly with less errors, thereby, increasing customer satisfaction.

- **Artificial intelligence (AI) –** In today's digital age, telecom companies want to use AI to provide more personalized services to the customer. According to a study by Transparency Market Research (TMR), the global market for artificial intelligence (AI) is estimated to post an impressive 36.1% CAGR between 2016 and 2024, rising to a valuation of US$3,061.35 billion by the end of 2024 from US$126.14 billion in 2015. Telecom companies have realized that enhancing the use of AI could lead to increased revenue streams. According to a study by Infosys, only 17% of the telecom companies have deployed AI of any significance.

Telecom services are set to transform with AI. Few areas where AI applications can be used are:

1. **Network operations monitoring and management:** Telecom companies have a wide range of services and products including fixed, mobile data, internet through an aggregated network. This network comprises of many vendors and systems that generate a large amount of data, which if utilized can help improve intelligence within network systems. AI analyzes this data to track network performance and avoid any unexpected outages. Monitoring networks helps mitigate incidents without hampering customer experience.
2. **Intelligent Customer Relationship Management:** Natural Language Processing (NLP) is used in customer-facing chatbots where auditory and textual synthesis gives the impression that a human representative is online. For example: Vodafone launched an AI-based assistant called TOBi - a chatbot that provides faster customer service and handles a wide range of user queries.
3. **Predictive Maintenance:** Getting the right information at the right time can assure lower cost of operations and high network stability. Using defined time intervals or pre-established criteria, AI uses principles of statistical process control to determine at what point maintenance activities are required. This helps determine the condition of equipment and predict corrective maintenance needs. Predictive maintenance can enable telecom companies to utilize equipment to its optimum, while avoiding unplanned downtime, minimizing planned downtime and save costs.





Benefits delivered to telecom companies using AI are:

1. **Enhanced Customer Experience:** Most consumers are not satisfied with network performance. Issue in network is one of the main reasons of customer churn. Using AI, telecom companies can evaluate network performance and avoid any unexpected disruptions. When a company realizes threat of a possible tower failure, they can focus on quickly dispensing repair teams to fix the tower and immediately solve the problem, thereby increasing customer satisfaction.
   - **Targeted Solutioning:** AI enables Telecom companies to better profile the customer and analyze churn, usage and trends. This helps them to offer tailored solutions to the customer at the right time. Keyword-based processing of issues has become a reality, thanks to AI that offers suggestions and effective responses to the queries of customers, further enhancing customer experience.
2. **Reduced Costs:** AI helps telecom operators assess life of their equipment. Telecom companies can save on costs of equipment that has exceeded its life span.

- **Machine Learning (ML) -** Telecom operators have a vast amount of data. Daily human interaction with telecom networks creates information, which if correctly interpreted, can be used to enhance customer experience.

  In some of the following ways ML can be useful for telco's:
  - **Detect fraudulent calls:** Machine learning collects huge amounts of data relating to fraud and analyzes it. It links the data to give clear predictions. It can detect anomalies and indicate probable incidence of fraud.
  - **Predicting customer churn:** Due to intense competition in the market and increasing options, customer attrition is high. Telecom operators can formulate simple patterns matching program to identify potential churners. ML algorithms can be used to understand the reasons of customer churn and help telco's save money.
  - **Predicting customer experience:** Using ML, it is possible for telecom companies to classify customer experiences based on data feeds, customer care calls, and spatial distribution. This will ensure that telco's can extract consumer insights timely to react to possible causes of poor customer experience.

The telecom industry can benefit in the following ways using machine learning:

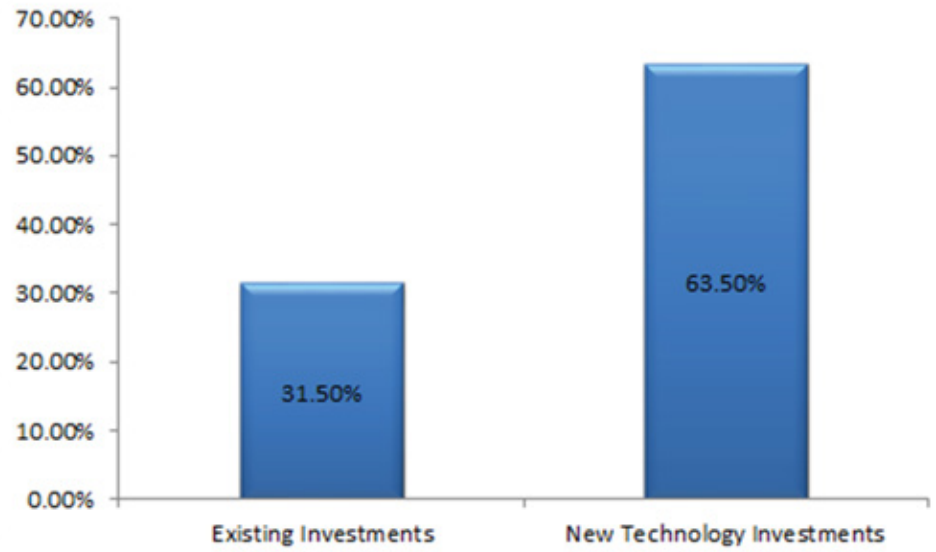
1. **Increased Customer Retention:** Information-based social media data is essential to telecom companies, as it can help them in gaining insights about what their customer thinks about their services and how they can focus on improving their services to increase customer retention.

The below diagram shows how ML helps telecom sector to reduce customer churn:

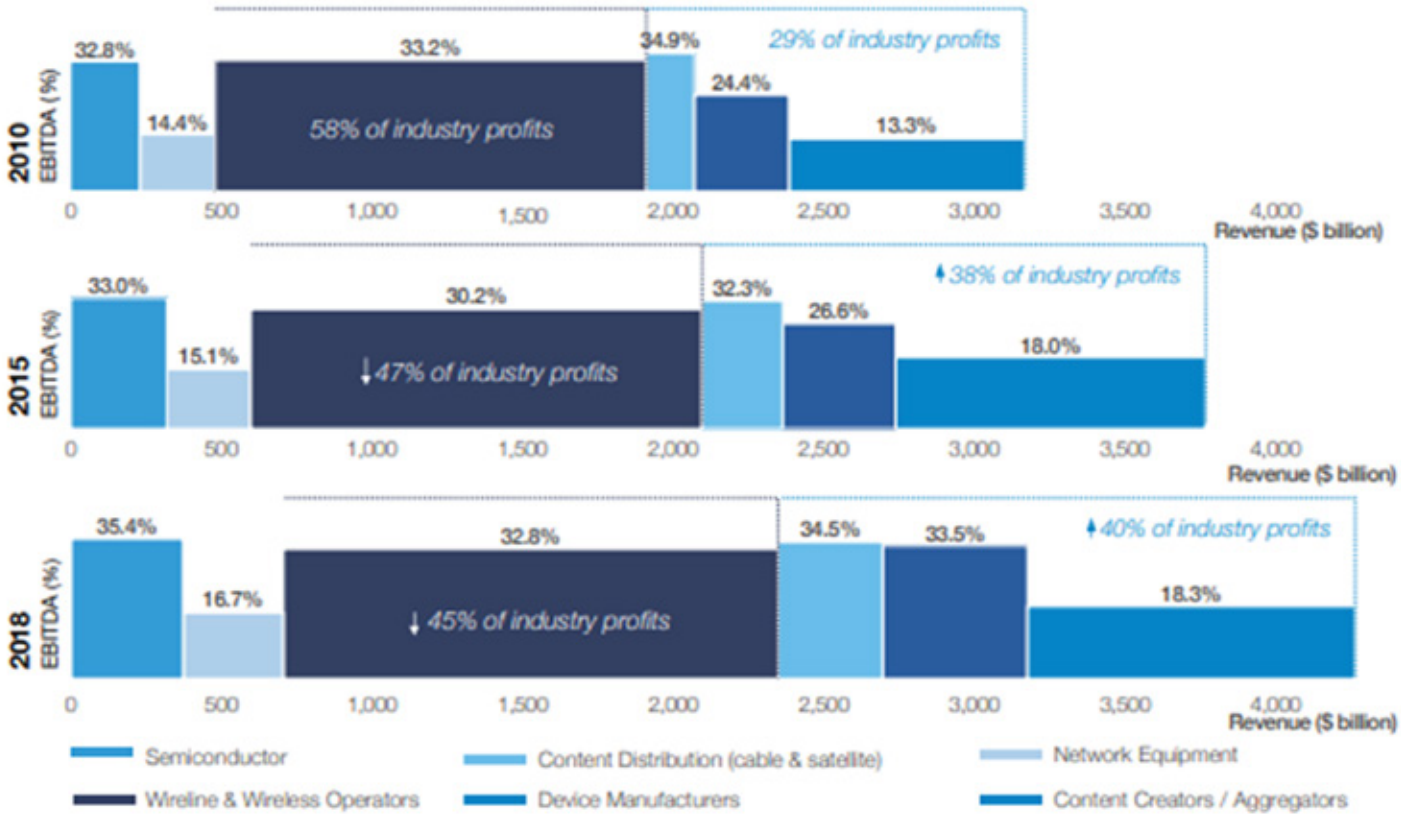


2. **Improved Collections:** Machine learning helps telecom operators identify customers at risk of default. By analyzing pattern of payment, operators can identify and group customers. This helps them to take special measures in collections from those who are proven defaulters.

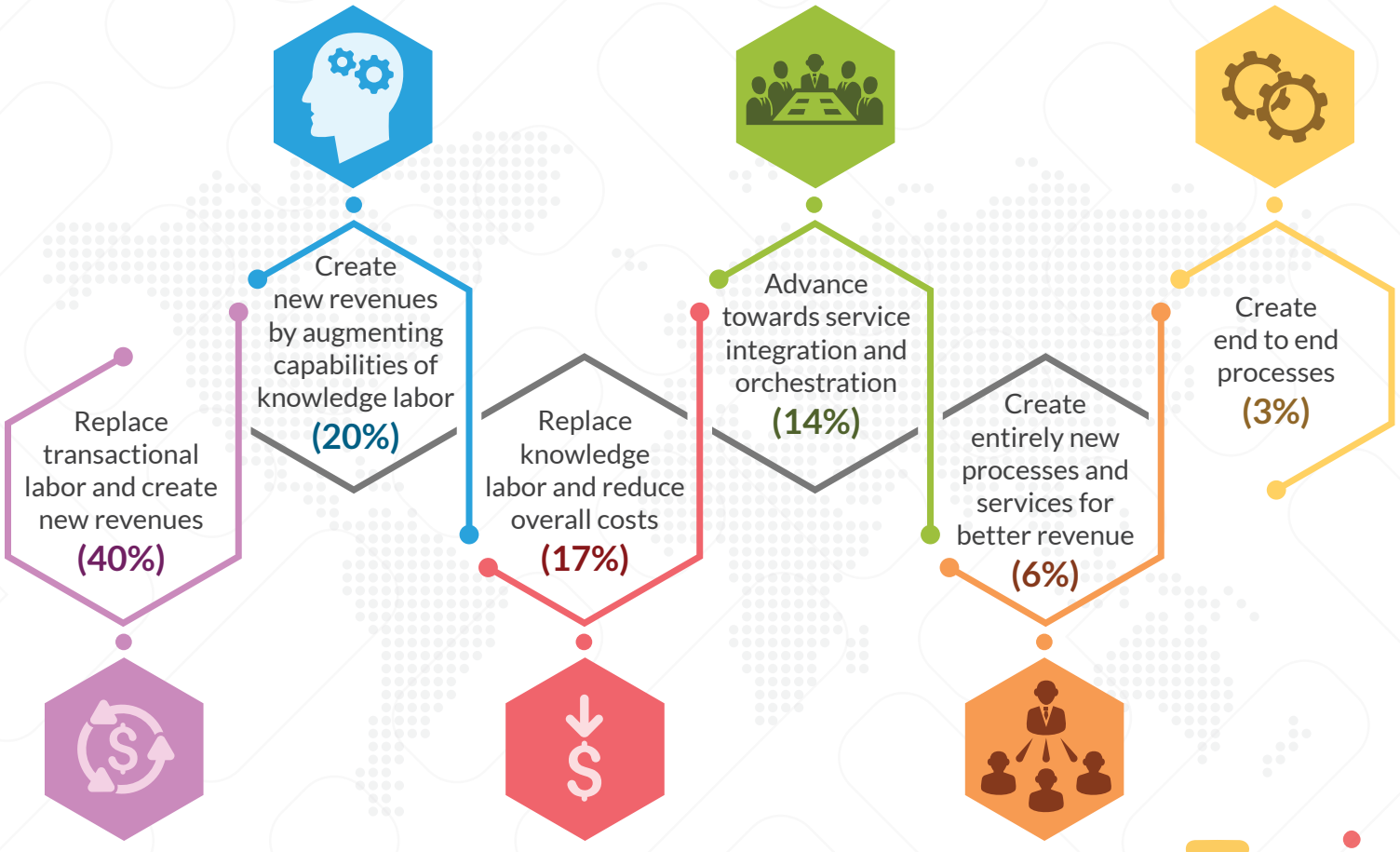
These automation levers enable efficiency and optimization for telecom operators. Adopting these technologies will allow telco's to move into new frontiers like predicting fraud/failures. According to a research by IDC, it was found that 31.5% of the telecommunication organizations are primarily focusing at leveraging existing investments/infrastructure and rest 63.5% are making new technology investments for AI systems. They are also looking for service providers to implement this technology.



The chart below shows telecom operators that account for a shrinking share of the overall industrial profit pool, despite their central role in enabling digitization. The falling revenues of telecom companies present an opportunity for service providers to bring in new age automation. This starts with RPA for straight through processes, and artificial intelligence and machine learning for processes like order fulfillment, billing and revenue recognition. Technologies such as analytics and virtual assistants can further enhance digital customer experience.



Overall, we found that artificial intelligence along with robotic process automation is the key benefit drivers for telco's. The below diagram represents learning percentages of how AI is helping a telecom organization:



Automation has ignited a significant disruption in the telecom sector and they can immensely benefit from embracing these changes. Combining knowledge from ML, AI, IoT, RPA, cloud and data management will bring a new digital transformation in the telecom industry. This intelligence should be present in all stages of operations, service and maintenance. The big challenge will be to create this digital knowledge and lead towards a cultural switch that will drive revenues and build a strong customer base for the telecom industry.

About Author



Praveen Kasturi - Has 15+ years of rich experience bringing in disruptive solutions across varied industries such as Telecom, Retail, Manufacturing and Insurance. A lifetime finance enthusiast, he possesses extensive expertise in finance & accounting. Coupled with his passion for transformative tech, he has developed solutions for Fortune 500 enterprises leveraging Artificial Intelligence, Machine Learning and Robotics Process Automation. Besides building core mega-gamma solutions he has set up new centers, transitioned operations and executed multiple BOT engagements. As a thought leader, he is an active blogger with views on trends that are highly respected and eagerly consumed by industry peers.



Akanksha Verma - Akanksha Verma, a Solution architect with over 4 years of experience helps in process consulting and transformation for Manufacturing and Consumers domain. She also has experience in end to end finance back office transformation. Skilled in identifying business objectives, determine improvement opportunities and design a to- be state to fulfill client business goals.

About Hexaware

Hexaware is the fastest growing next-generation provider of IT, BPO and consulting services. Our focus lies on taking a leadership position in helping our clients attain customer intimacy as their competitive advantage. Our digital offerings have helped our clients achieve operational excellence and customer delight. We are now on a journey of metamorphosing the experiences of our customer's customers by leveraging our industry-leading delivery and execution model, built around the strategy— 'Automate Everything, Cloudify Everything, Transform Customer Experiences.'

We serve customers in Banking, Financial Services, Capital Markets, Healthcare, Insurance, Manufacturing, Retail, Education, Telecom, Travel, Transportation and Logistics. We deliver highly evolved services in Rapid Application prototyping, development and deployment; Build, Migrate and Run cloud solutions; Automation-based Application support; Enterprise Solutions for digitizing the back-office; Customer Experience Transformation; Business Intelligence & Analytics; Digital Assurance (Testing); Infrastructure Management Services; and Business Process Services.

Hexaware services customers in over two dozen languages, from every major time zone and every major regulatory zone. Our goal is to be the first IT services company in the world to have a 50% digital workforce.

Learn more about Hexaware at http://www.hexaware.com

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