



MEGATRENDS AND DEVELOPMENT IN INDUSTRY

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Abstract: Economic growth, globalization, technological development – here are a just some of the megatrends that are shaping the future of Technical Service. Nowadays we live in a service economy where great customer service is an asset for almost every small business. The next decade is likely to be as turbulent and unpredictable as this one, presenting new challenges and opportunities for society, industry, customers and companies. Maintaining a competitive edge in the future marketplace will require vigilance, imagination, and the willingness to take decisive action.

Keywords: digitization, maintenance management, competitive ability, globalization.

Introduction

Technical Service is professionalizing while new technologies and customer requirements reshape the industry. The industry in 2020 will be very different from what it is today. Some of the most important conversations surrounding the Technical Service industry today revolve around trends that will allow us to future-proof our businesses. How can we structure our processes and society today, in order to withstand the impacts of tomorrow? By analyzing trends and tendencies to create future scenarios. For years, megatrends have identified fundamental external driving forces that impact every level of society with a high degree of certainty. They have shaped the world and will continue to shape our future, but which megatrends will impact the global Technical Service and services industry towards 2020 the most? In this article are few important megatrends for industry factories.

Scenarios for the future in Industry

Scenarios are designed to assist organizations develop plans and elaborate strategies to seize upon opportunities early and mitigate future challenges in the following ways: [2]

- Business managers anticipate and investigate the impact of external developments on the industry,
- Business developers cultivate new business models, processes and services to promote value in their organization and among customers,
- Technical Service managers anticipate changes in technology,
- Human resource managers anticipate the companies' future skills requirements.

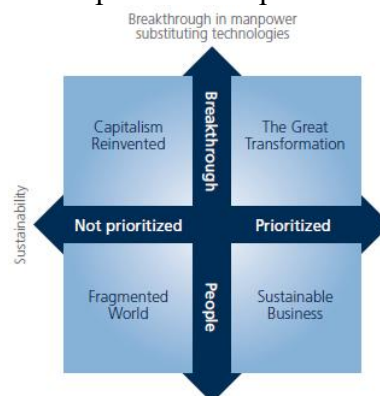


Fig. 1 Matrix of the scenarios [11,12]



Technology axis

All interviewed experts agree that technological development will have a great impact on the industry, possibly leading to radical change within the next decade. Some of the key transformative technologies experts cited were:

- Building Information Modeling and Virtual Building Environments,
- The application of radio frequency identification (RFID) technologies [1] and the development of the Internet of Things that will permit the real-time monitoring of environments, buildings, automated resources, and workers to permit the more efficient utilization of resources,
- New materials technologies.

Sustainability axis

The challenge for the next decade will be to assess how deep the concern for creating a sustainable society goes and how rapidly a shift could occur. Will societies choose to prioritize sustainability, or will sustainability fade in and out of the consciousness of policy makers, business leaders and the general public? Sustainability covers four different dimensions, and the dimensions' importance will vary dependent on the effects of the vertical axis: [8]

- Green: Natural resource preservation, climate change (energy efficiency and reduction), pollution,
- Health issues: Environmental and workplace health hazards,
- Social: Unemployment, marginalization, inequality,
- Economic: Sound and ethical business and regulation practices.

The elements of scenarios of the future

- Capitalism Reinvented

This is a world where markets and money dominate. Governments seek market stability and free trade. Business is driven by a focus on gaining a competitive advantage on price and efficiency. There is widespread dislocation of the workforce as service jobs are increasingly being automated. Social unrest is common because many cannot keep up with the fast pace of change and growing economic polarization. The driving forces affecting this scenario are: [12]

- Global competition based on functionality and price,
- Increased market liberalization and outsourcing,
- Strong global economic growth and competition from emerging markets,
- Strong cross-border consolidation in many industries,
- Small and weak governments and economic polarization.

- The Great Transformation

This is a society moving towards a situation where environmental, social and economic challenges are solved through technological solutions and resource efficiency. Focus is on optimizing use of resources through automation. There are many private public partnerships with the purpose of developing sustainable solutions. There are distinct advantages for private enterprises to develop sustainable solutions. [5] These include retraining affected workforces to find alternative employment, “sustainable” development projects through “R&D” clusters etc. The driving forces affecting this scenario are: [12]



- High and volatile commodity prices,
- Desire to push society towards sustainability,
- Demands for transparency,
- Lower economic growth as adjustments take time to work through the system.

- Sustainable Business

A deeply rooted understanding of the importance of solving the sustainability challenge has emerged and is leveraged to solve complex environmental challenges. Governments are enforcing sustainability initiatives and have assumed a proactive role in protecting their citizens. Innovation is focused on the challenges that have emerged from resource scarcity, including maximizing air and water quality and preserving reserves of fossil fuels. [3] The challenge is to increase efficient use of resources, which is creating new business opportunities. Holistic health care, care of the elderly and traditional educational institutions are being reinforced. The driving forces in this scenario are: [12]

- Ethical code of conduct and triple bottom-line,
- Local solutions over global,
- Global climate events and resource challenges,
- NGOs driving players,
- Polarization of service provision,
- Services/experiences are preferred to products.

- Fragmented World

Local societies are in control of their spheres of influence and are going their own ways. Business values are emphasizing productivity, volume and measurement focused methods, yet many people still prefer the personal touch. They are skeptical about technological solutions. Wealth is concentrated in a small elite. New labor-saving technologies have not penetrated the market yet as wages remain low. The driving forces affecting this scenario are: [12]

- Prices and efficiency,
- Global and regional conflicts (between and within countries) in a multi-polar world,
- Other challenges supersede sustainability,
- Low competition in services across borders,
- High economic polarization is common.

Three area of megatrends in Industry



Fig. 2 Megatrends in Industry [9,10]



Factor megatrends

- Economic growth

Global economic power will likely continue its shift eastwards. The Technical Service will experience consequences when most construction activities move towards emerging markets. Increasing competition coming from new players in emerging markets will force companies to search for greater differentiation [5], and to be innovative in how they adjust their business models and deliver extra value to clients.

- Globalization

Globalization makes us more alike; at the same time, it makes us more aware of local differences. A growing number of multinational companies have therefore begun to adapt their products and marketing to local markets. This is commonly referred to as the “Glocalization” strategy [4]. Companies that are able to navigate between emerging markets and different cultures, can look forward to a prosperous future.

- Sustainability

Global warming will be one of the main sustainability challenges for the coming century. To become more energy and carbon-efficient, societies around the world may be forced to restructure their economies and infrastructure. [8] Sustainability challenges will have a number of consequences for the Technical Service in the coming decade, affecting supply and value chains as well as building design, management and maintenance. Systemic design will become more important.

- Demographic trends

Attracting, recruiting and retaining the best possible workforce will be increasingly complex and challenging for companies around the world, as the interests and motivating factors for workers from various generations are different. In Europe, the US, Japan and China, the fourth-generation workplace will become increasingly common. It will be an essential factor for all Technical Service in companies to understand the motivational factors for each age cohort. [7]

Knowledge megatrends

- Technological development

Technological progress increases productivity, leads to the development of new industries, income growth, and reduced poverty. Towards 2020 we expect to see major progress in intelligent technology, such as near field communication (NFC) sensors, smart surveillance, security applications and smart robots, which will enable automation of more activities. [1] Technology will take over more domains and functions as robot technology improves in quality, prices for advanced technologies decline and labour costs increase.

Technological development is squeezing low-quality labour out of the market and creating new demands for skill sets. Cleaning, for example, is no longer an issue of “elbow grease”. Security is much more than a pair of eyeballs. New technologies require that people work in more intelligent ways. [3]

- Increased knowledge

New reporting, collection and control technologies are creating a mountain of data that needs to be collected, stored and analyzed. The successful FM and services industry companies towards 2020 will be the ones that can efficiently collect, store, secure, analyze and operationalize data to generate value and maximum benefit for customers. [4]



Social megatrends

- Individualization

Individualization will continue to impact organizations and social relations, especially in low- and middle-income countries. People and organizations expect tailored products, services and solutions. Companies expect their Technical Service providers to supply individualized services that maximize their value proposition. [9] Additionally, companies will experience increasing employee turnover. Individualization will be prominent as employees and customers increase their demands for individual attention.

- Commercialization

Commercialization means faster competition, shorter product lifecycles as well as increasing specialization, differentiation and innovation. Technical Service in companies will have to find ways to help their customers stay competitive and maximize value. To do this, managers will have to understand the key business indicators that promote value in an organization; and how Technical Service can help their customers improve performance. [10] This could be achieved by understanding their strategic plans and objectives. It could also be achieved by employing lean management techniques to cut waste and use six-sigma strategies to increase quality.

- Growing focus on health

Over the coming decade, an increasing focus on health will permeate more aspects of private and business life. More lifestyle-related disorders and diseases will emerge. The focus on health and a better life will lead to artificial and technologically enhanced human capabilities, creating major impact on the global Technical Service in companies. [6] In Europe, over 30% of integrated Technical Service revenue is generated by the healthcare sector. As budget cuts in Europe affect service provision, governments will likely outsource more activities. The doubling of the prevalence of lifestyle-related diseases, like diabetes, will lead to new incentives in building designs to promote healthier and more productive lifestyles among company employees. Buildings will be assessed and designed to promote more active, comfortable, and productive lifestyles.

Conclusion

To be successful in the services industry, companies must be vigilant as regards to changes in their business environment, imaginative in developing new responses to needs, and be decisive in action. The scenarios present provocative and plausible accounts of how global society and the services industry could develop, given certain interactions of key external forces towards 2020. The scenario matrix should be used as an analytical framework for discerning patterns and insights that emerge and can be used to set long-term goals within the Technical Service.

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