

Digital, Social and Economic Concern in Supply Chain Management

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Abstract—The Digital, social and economic impact of Supply Chain Management indicates significant contribution to Supply Chain growth and cost optimization. On the other hand, job creation effects appear to differ by industry sector. Supply Chain Management starts with the ability to sense and respond to real-time demand and supply constraints. One that brings together data from customers, channels, suppliers, contract manufacturers and partners. Supply Chain Management may have simultaneously caused labor creation triggered by unlocking scalability in certain sectors while enhancing productivity in other labor-intensive industries. In other words, while triggering job creation by alleviating jobs.

Management, The digital revolution and the emergence of advanced artificial intelligence, block chain, and other technological capabilities create incredible opportunities for the optimization and synchronization of business processes, dramatically improving business planning speed and effectiveness. Even today's most cutting-edge firms have likely only skimmed the surface of the potential that these technologies offer.

Trends in supply chain management (SCM), such as the globalization of market economies, shorter product life cycles, digitalization, and multifaceted customer expectations, along with developments such as resource scarcity, stricter regulatory requirements, and a more long-term focus, have led to the evolution of highly complex supply chains. The incorporation of environmental and social responsibility issues into the management of supply chains is becoming increasingly relevant to the success of organizations and their supply chains. Organizations are considered accountable for their activities that affect the environment, society, and economy of their own businesses, as well as those of their supply chain participants.

Keywords: Social and Economic, Supply Chain, Information and communications technology (ICT), Digital Supply Chain.

Global supply chains and their Supply Chain are under enormous pressure from rising commodity prices, globalization of clients, labor disruptions, natural disasters and constantly changing regulations. The challenges in Supply Chain of Product Process Improvements are in Sustainable Innovation. Ensuring security of supply will challenge most Supply Chain over the next few years. It will require an

evaluation of Product Process Improvements are truly strategic, and which are not, with security of supply one among the factors that enter into that determination. Organizations from different industrial sectors, based on their geographical location and size, face a diverse range of pressures from various stakeholders to implement sustainability initiatives within their organizational boundaries and across their supply chains.

Economic growth:

- Improved productivity as a result of the introduction of more efficient Supply Chain processes supported by ICTs
- Revenue growth resulting from extended market coverage
- Impact on the composition and deployment of industrial value chains
- Growth of some industries within the services sector

Supply Chain Management refers to the Supply Chain triggered by the massive adoption of digital technologies that generate, process, and share and transfer information. Digital Supply Chain is not a one-time event. It proceeds in waves driven by technological progress and diffusion of innovations. Supply Chain Management is associated with the introduction and adoption of what today are considered “mature” technologies, such as management information systems aimed at automating data processing and applied to monitoring and reporting of Supply Chain performance, telecommunications technologies which allow the remote access of information. Supply Chain Management entails the adoption of a range of advanced technologies, such as big data/ analytics, Internet of Things, robotics, sensors, and artificial intelligence, and is aimed at enhancing information processing and the quality of decision making, while further automating routine tasks within Supply Chain enterprises and governments. These technologies are not typically adopted in a stand-alone fashion but are integrated with the mature technologies characteristic. Supply Chain Management has a specific set of social and economic impacts. Computing, broadband and mobile

telephony networks have been instrumental in relaxing industry scalability constraints, thereby allowing traditional sectors of the economy to grow more rapidly. The alleviation of the resource constraint has led to increased demand for labor in service industries, although it also had a positive effect in manufacturing. Finally, the SCM appears to have had an impact on the growth of household income, and the facilitation of social inclusion.

Supply Chain Management has led to the introduction of new services and applications such as Internet information searches, electronic commerce and a whole range of collaborative Supply Chain that characterize the digital economy. This “innovation effect” has yielded enhanced demand for labor in certain occupations linked to the development of digital services or the emergence of collaborative Supply Chain models, coupled with the disappearance of repetitive low and middle-skilled jobs resulting from task automation. Supply Chain Management has significant implications for productivity improvements. It also promises to have significant benefits on social welfare, more particularly on several Sustainable Development Goals, associated with the delivery of public services.

- Implement labor market policies focused on workers being able to either retain their current jobs or move to the new areas of demand. These policies comprise job placement services, special labor market programs and wage subsidies to lessen the transition cost;
- Deploy policies focused on increasing geographic mobility, which would allow workers residing in areas affected by automation to move to high job creation cities.
- Accelerate the creation of clusters of industries and universities around high quality of life locations that stimulate high-skilled labor demand in underdeveloped areas.

□ In particular, emerging need to actively promote the Supply Chain Management of production and digital Supply Chain. This requires emphasizing policies focused on accelerating the Supply Chain Management of production of enterprises, by reducing the cost of technology acquisition, training of employees, and the provision of consultancy services to support companies in their process of digital Supply Chain.

□ Changes in educational and training systems to address the human capital gap (implement tracking systems aimed at sorting out top performers; introduce short term technology careers; structure two-tier university systems);

□ ICT deployment leads to job destruction in certain areas or sectors, governments should be ready to implement retraining programs and temporary safety net mitigation initiatives.

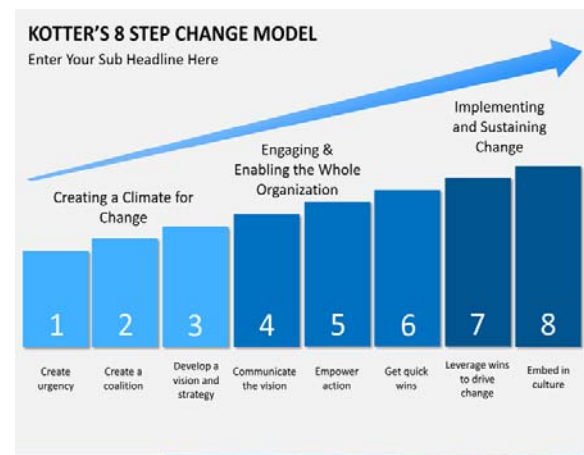
Many supply chain executives and companies are stuck on the starting line because they can't get past the word “social” and the perception it creates.

When supply chain executives hear “social media,” they immediately think Face book, LinkedIn, and Twitter. And because these publicly available sites lack any supply chain and logistics context, they can't see how these social networks will help them manage their transportation and warehousing operations, for example. Simply put, the term “social media” has an image problem in supply chain circles.

Change management:

The digital transformation of supply chain management, more specifically procurement and sourcing functions, is becoming a part of the new normal in business.

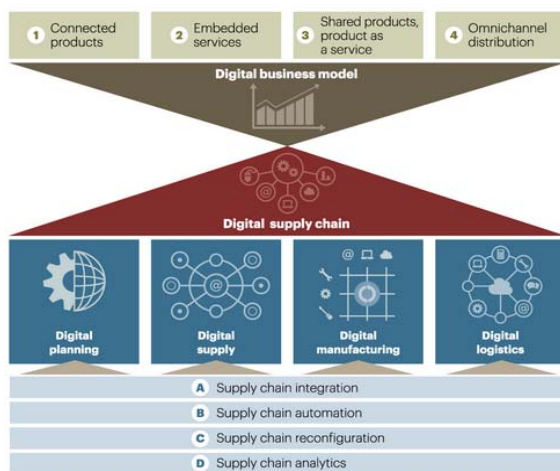
Change management is another roadblock. Just because you deploy a social networking tool and tell people to use it doesn't mean that they will. When confronted with new technologies and processes, many people react this way: We are creatures of habit, and getting us to change is not easy, especially if we believe that our way of doing things is better (easier and faster) than the new way being proposed. Supply chain executives also view social networking as more work. Implementing change and managing change are no easy task, and for that very reason change requires infrastructure, processes and clearly defined actions.



Without a continuous focus on implementing and managing of change, our organization will be trying to reach/ develop shared business goals within digital transformation.

Digital Supply Chain Management:

A supply-chain digital transformation, then, is about establishing a vision for how digital applications can improve service, cost, agility, and inventory levels and consistently implementing process and organizational changes that use these technologies to drive operational excellence. The digital supply chain is a new media term which encompasses the process of the delivery of digital media, by electronic means, from the point of origin (content provider) to destination (consumer).

Digital Supply Chain Framework:**Digital Supply Chain Management (SCM) Levers:**

- New SCM requirements for smart products
- Shorter Lead time and Price variations for electronic comp.
- New Spare parts and service req.
- Setup of online monitoring and second or third level support
- New failure analytics due to more possible reasons outside of own products
- Disposition and capacity management of the rented products
- Products, its parts monitoring replacement planning
- Logistics for relocation and maintenance, refurbishing and repair
- Direct Sales (bypassing the whole seller via online),
- Cross border selling partially with own custom solutions
- To users - smaller lot sizes and different central and regional storage requirement

Digital Supply Chain Management (SCM) Challenges:

- IT Integration with SCM Partners & org functions
- Paperless Freight Documents
- Smart Packaging
- Radio and GSM Tagging
- Smart Labels communicating with each other creating decentralized optimization Intelligence
- 3D Printing and Additive manufacturing

-E-Platform for direct carrier selection and transaction

-Use of app based e-platforms for express and partial deliveries

- Big Data Analytics for SCM improvement

Transformation:

Integration of big data and predictive analytics

-Integration of big data and predictive

-Analytics based dynamic supply chain segmentation

-Fitness for augmented reality

-Better integration of manual and robotic processes and self coordinating robots handling, packaging beyond RFID

-Integration of big data and predictive

-External Interfacing for automated updating of capacities and schedules

-Integration with advanced procurement systems

-Integration with advanced procurement systems

- Seamless interfacing with e-platform for booking and reservations as a part of standard configuration

-Implementation of more sophisticated machine judgment

-Advanced scenario planning, Process integrated risk management

-End to end digital document handling

- Interfacing and integration of all documents and document handling system

-Collaborative optimization, - Seamless interfacing with TMS system

-App based spot market tendering to truck brokers and truckers

-More standardization of the interfaces (including due to more shipper-carrier interaction and more independent providers of the specialized supply chain services)

- E-platform proliferation

To users and consumers with smaller lot sizes and different central and regional storage requirement

Steps to a Digital Supply Chain:

A good place to start when shaping a digital strategy understands the industry context and the company's starting point. These with the latest off-the-shelf digital tools can generate new revenue, improve responsiveness, increase efficiencies and reduce the total cost of ownership for IT systems.

Leading companies develop the culture, data analytics, and IT systems to support their digital strategy and Supply Chain objectives. They pursue specific goals with near-term value while adopting a clear view of their digital destination. And they remain ready to pivot as their industry evolves.

The key to building supply chains that will be competitive in 5 or even 10 years is anticipating change. Leaders evaluate where the industry is going and identify the supply chain capabilities they need to get there.

True, anticipating change is a strategic leap into the future. But most leadership teams can gauge what their Supply Chain may look like in 3, 5 and 10 years. The 3-year vision is likely to be more concrete, while the 5-year and 10-year visions will be more conceptual. These scenarios can help supply chain teams identify what the company would need to do differently and what new capabilities any such changes would demand.

The ideal future state for a supply chain allows leadership teams to identify missing capabilities and start building them. In our experience, companies that make the right short-term investments to improve supply chain performance generate significant savings to fund long-term investments.

The leadership team realized it needed to replace more than half of its aging distribution centers with several high-performing ones, but it couldn't afford to make the entire investment at once. It started instead with the five largest distribution centers, investing in digital tools and establishing distribution processes.

Companies can create a portfolio of near-term and longer-term options to help them close the gaps between their current supply chain and the future ideal state.

The company contemplated several options to improve its ability to meet consumer demand. Investing in better forecasting tools and processes could improve accuracy but would not eliminate all uncertainties. Advanced manufacturing technology could reduce its cycle time, but the company would still need to forecast item sales. The leadership team decided to invest in digital tools to connect the sales force and delivery team with central planning and manufacturing. The new system identified products that were selling nearly in real time, giving both teams greater visibility into store demand. That, in turn, helped it manufacture the right products to quickly fill empty store shelves and increase sales.

Build a Balanced Roadmap

One challenge for leadership teams contemplating a supply chain upgrade is identifying near-term steps that will help pay for future innovations. Successful companies build a short-term roadmap with concrete initiatives that will start delivering benefits quickly and provide flexibility in reaching long-term supply chain goals.

One global technology company faced enormous supply chain challenges when it suddenly had to support five new multibillion-dollar Supply Chain. The shift was part of a new market strategy to accelerate growth, but it wreaked havoc on the company's highly customized supply chain.

Management had to make sure that the new supply chain could enable an array of new Supply Chain models and balance their competing demands. That meant investing in basic IT capabilities and supporting new cross-functional Supply Chain processes.

The leadership team's roadmap met all these competing needs while generating quick wins and providing flexibility to accommodate future capabilities and evolving technologies. By shifting existing priorities, the roadmap helped the company fund the complex program with only a modest increase in spending beyond its baseline.

The policy challenge going forward is that the digital Supply Chain Management is so all-encompassing that sector-specific strategies developed within institutional silos are not applicable any more. Governments need to build cross-institutional links fostering the collaboration among education, ICT, industrial promotion, science and technology to devise and jointly implement policies. In addition, the future public policy scope has to be significantly expanded beyond traditional domains such as taxation, competition, and digital literacy to include new areas such as privacy protection, cyber security, and the fostering of digital adoption such as trust and enhanced customer experience. As it is clear, the challenges for policy makers are significant, but so are the benefits for citizens and the need to mitigate any potential disruptions.

Conclusion:

Social media can play a central role in supply chain management. After all, social networking is not really about socializing, but about facilitating people-to-people communication and collaboration, and with the options that digital technologies provide to develop new Supply Chain models and new strategies, companies that integrate digital technologies into their supply chain can quickly improve service levels while cutting costs.

Focus instead on the work that needs to get done, and see if social networking tools are a better, more effective solution than email, conference calls, and other ways you're currently communicating and collaborating with colleagues and external partners. Focus on power users, and Investments in technology are often driven by the needs of a specific supply chain functions.

Training programs and governance structure on social networking use that allows to experiment and innovate in Supply chain management. Social networking can help companies generate more - and better - ideas for improving supply chain processes and solving existing problems by

tapping the collective insights, knowledge, and expertise of employees across all levels of the organization. Social networking can provide companies with more timely insights about emerging risks and events, enabling them to take corrective action sooner and thus prevent a supply chain disruption. Engagement of Social Media in business really makes the difference to claim highest customer value. It can be more helpful in creating visibility, enhancing business to customer communication, reducing procedural cost as well as manpower and making authority more focused and profit oriented, mitigating the risk in optimal way and improving business intelligence. Customer satisfaction highly depends on streamlined and productive Supply Chain Management. Collaborative work on social media allows making plans and schedules in advance and also on real time basis. It helps all the stakeholders involved in Supply Chain to stay in contact with each other to have decision making system efficient and transparent. Direct contact with the customers saves time which can be utilized in better processing and optimization. Also based on feedback, a quality of service or product can be improvised as per requirement. "Social media can – and should – play a central role in supply chain management. After all, social networking is not really about socializing, but about facilitating people to-people communication and collaboration."

The adoption of sustainability practices not only improves the environmental and social performance of organizations and their supply chains, but also provides an opportunity for organizations to acquire a new set of competencies, which can help them to achieve a competitive advantage by undertaking sustainability initiatives within and outside of the organizational boundaries. Sustainability in the context of the supply chain presents challenges as well as opportunities for organizations and their supply chains. The adoption of the correct sustainability initiatives within the operations of organizations and their supply chains poses a significant challenge to decision makers. Comprehensive decision-making leads to better performance.

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