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Global E business and Collaboration

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1. Introduction

The increased penetration of Information and Communication Technology (ICT) has revolutionized the world and the ways things were done and processes were executed. Due to the modernization being encountered throughout the world, the business community has adopted electronic means of implementing the old process. Thus, intending to enhance productivity while saving on time and money. The decision to adopt change has always been a major challenge to every organization no matter which industry they belongs. However, the pressing need of the technology revolution and the intention to stay ahead of the competition has actually compelled the companies to transform and upgrade their business processes and systems.

The global e business and collaboration has casted an impact throughout the globe. The ICT has enabled business ecosystem to flourish across international boundaries bearing collaboration to other businesses in other countries (Ali & Edghiem, 2021). With the continuous aim to innovate and remain competitive, the organizations has actually started to organize its portfolio of tasks that they believe should be left to them while outsourcing others through collaborating with other service providers (Chakravarty, 2005). Several researchers shared the notion that collaboration with other businesses and service providers using ICT actually cut down cost of doing business and improves decision making ability through sharing of data, resources and processes among mutually compatible business structures (Iyamu & Adelakun, 2021).

The primary categories of ICT that promotes effective collaboration includes access, data sharing, resource sharing, process sharing, application sharing and free-form interaction (Alsaad, Yousif, & AlJedaiah, 2018). As far as ‘access’ under ICT is concerned, then businesses under collaboration can access each other’s data through Electronic Data Interchange (EDI) or through Web Browsers (Khosrow-Pour, 2018). However, ‘data sharing’ allow collaboration implemented through matching inputs of one entity to the output of the other entity. Similarly, ‘application sharing’ encourages collaboration through allowing partner entities to run each other’s applications to extract and use data.

Moreover, the 'process oriented' collaboration involves the use of workflow systems to share processes in a network formed among the partner entities (Alsaad et al., 2018). Furthermore, 'free-form interaction' allows collaboration among partner entities using internet and social platforms where they can connect and exchange ideas, opinions and communicate in a free interactive environment (Chakravarty, 2005). Hence, these forms of ICT promote collaboration among businesses to enable them to work towards common goal and value addition.

Such is the purpose of this article which intends to shed light on the implementation of Information and Communication Technology (ICT) to facilitate and promote collaboration among globally dispersed businesses. Moreover, it also highlights the ways through which collaboration among business ecosystem creates value in various business contexts with different strategic implementation. Lastly, it will analyze and evaluate the business value chain transformation undertaken using collaboration to ICT.

2. Business Models under ICT Collaboration:

The technological advancement and ICT collaboration results in formulation of business models that are nurtured through internet and electronic technology. These business models consequently transform the processes and facilitate in establishing collaboration among businesses dispersed all over the globe.

For instance, 'e-sell' uses the Enterprise Resource Planning (ERP) software to track real-time capacity commitments against customer demand(Ilin, Ivetić, & Simić, 2017). The e-sell model promotes collaboration between various stakeholders like business, vendor, customers and service provider. The business utilizes ERP to track orders till customer demand is fulfilled. Similarly, the customers indicate their production plan, inventory status and forecasts with the supplier through Vendor-Managed Inventory (VMI) (Molka-Danielsen, Engelseth, & Le, 2017). The implementation of technology encourage smooth flow of data among stakeholders.

Such is the case with 'e-procurement' model where by the businesses and vendors have transformed their relationship using electronic means of sharing and transferring data (Chakravarty, 2005). A Request For Quotation (RFQ) is generated from business to the vendors whereby the information about required components is displayed on the web of the vendors and they in return quote a price (Alfares & Attia, 2017). Hence, the company opts for the vendor that offers the best quotation and quality. Rather than personally visiting and participating in the search for most suitable vendor, e-procurement provides a chance to explore, shortlist and select the best vendor that offers best quotation and quality. Furthermore, request for supplies is also generated when the company reaches buffer stock level. An order is generated automatically to the vendor to send certain amount of supplies and components before it runs out of stock (Aussawasuteerakul).

Apart from this, 'e-auctions' initiates bidding schemes and auction opportunities among businesses using electronic portal and web(Ali & Edghiem, 2021). It's a b2b portal created primarily to facilitate low cost bilateral negotiations among businesses to encourage value based deals and agreements (Essens, Thompson, Karrasch, & Jermalavicius, 2017). Through this portal, buyers benefit from low cost purchases and

availability of broad schemes while sellers gain from getting rid of excess stock and making substantial use of extra capacity and resources.

Furthermore, 'value-chain service providers' consists of various service providers like logistic service providers, application service providers, legal service providers etc (Merkert, Bushell, & Beck, 2020). These service providers have a crucial role to play in establishing collaboration using ICT because they are the ones who are being outsourced important tasks by the company. In short, company trust them by outsourcing them certain tasks and activities. For instance, a company outsource customer activities to a Customer Relation Management (CRM) service provider for effectively managing customer's data (Kolasinska-Morawska, Sulkowski, & Morawski, 2017).

These are the examples of software and models that utilizes information and communication technology to promote collaboration among globally dispersed businesses or stakeholders to create a mutually beneficial value addition.

3. Strategic implementation of ICT in different business contexts:

3.1. Customer Relationship Management (CRM)

There are companies that have their operations centered around customers. Hence, these customer centric businesses end up formulating various departments that deals in data concerning customers. For instance, a customer oriented retail store has a separate checkout department, customer representative department, billing department, invoice control etc. As a result, these departments lack synchronization to collaborate and work as a unified team to facilitate customers (Das & Mishra, 2019). In consideration to this issue of collaboration, a software known as Customer Relationship Management (CRM) was designed to establish coherence by connecting all separately working business units or departments to be combined as a unified whole. Hence the aim was to fulfil the need of the customers in the most efficient yet effective manner. This problem is primarily addressed through the installation of CRM which offers a comprehensive solution to customer centric companies by connecting all departments or business units comprising marketing, finance, supply chain management and business intelligence (Bettis-Outland, Tudor, & Bilal, 2019). With the CRM available throughout the business, each and every department benefits from it. For instance, the business intelligence unit after analyzing the customer trends and purchase pattern using CRM make forecasts and share with other departments connected through CRM software (Sujarwanto & Iriani, 2019). Eventually marketing department use those forecasts and trends to devise or adjust their promotion and communication strategy and also prepare a budget in collaboration with finance department. Furthermore, the supply chain department would also analyze the capacity that the business currently possesses to meet the future demand of the customers (Singh, Garg, & Sachdeva, 2018).

Some of the crucial features offered by CRM includes electronic marketing campaigns, reporting and analysis, forecasts, sales force automation, order booking and fulfilment. The CRM is not just restricted to the internal business stakeholders but it also involves external stakeholders mainly business customers. It also allows interaction with customers using web services whereby the customer can place order using CRM dashboard (Azad, Bag, Tabassum, & Hao, 2017). The order is shown on the dashboard of the ordering department which then generate order for the concerned customer. Afterward, the supply chain department

receives a list of the concerned order at their CRM dashboard and fulfil and dispatch the order. Although each and every stakeholder involved in the process has access to CRM but the degree of access varies for each participant (Ferrell, Ellis, Kaminsky, & Rainwater, 2020). For instance, the sales department has wide access to analyze the customer buying trend like most ordered item of the month, order with maximum value etc.

Eventually the integration of CRM in the business processes leads to secured interaction with multiple stakeholders mainly business customers, collaboration between selling and services teams, timely delivery of data and information to multiple parties at the same time including employees, customers, business departments and other stakeholders (Subramanian & Abdulrahman, 2017). This brings operational efficiency in the business. This practice is also observed in a 'call center' business where close synchronization and interactive interface is required among customers on billing, services and sales functions of the business. A call center customer representative has to deal with variety of CRM software and application to keep the customer satisfied by fulfilling their needs (Das & Mishra, 2019). For example, a call service agent's portal provides access to service agreements, contracts, billing details, products installed and transaction tracking.

3.2. Supplier Relationship Management (SRM)

Just as CRM excels in encouraging synchronization and collaboration among internal as well as external business members to work towards effective customer relationship management by addressing to customer needs, SRM is dedicated to perform effective supplier side functions by ensuring collaboration between business and its suppliers (Singh et al., 2018). The key supplier side functions targeted through SRM includes replenishment, logistics, sourcing, manufacturing, knowledge sharing, application and technology transfer. The collaboration with suppliers and vendors over SRM assists in sharing production plans and ordering schedules in order to avoid over or under production (LONGINOTTI, 2021). This collaboration is primarily targeted at contracting the lead time, minimizing the inventory storage and reducing the over or under capacity situation.

Now a days companies provide access of their ERP and accounting systems to their vendors and supplier. Although the access is restricted and not fully granted but the purpose is to establish coherence to achieve better utilization of supply side functions (Bettis-Outland et al., 2019). However, the required results and goal accomplishment is not possible by establishing connection to one side i.e. supplier. It is equally important to create a whole value chain by incorporating the customer side in the chain as well leading to a whole supply chain (Bwaliez & Abushaikha, 2019). For example, the supply side functions must be fully integrated with customer side demand and ordering to attain customer satisfaction and supplier efficiency. That is supply side functions require integration and collaboration with customer data and information to form an effective and performance oriented collaboration (Azad et al., 2017).

As an example to better establish the integration among the entire supply chain, Dell Computers establish collaboration with United Parcel Service (UPS). Dell Computers in implementation of its B2B model delivers its computer systems to business customers using the services of UPS. The UPS provides logistics services whereby it is responsible for picking up computer systems from Dell plant based in Texas along with monitors from Sony's factory based in Mexico (Chakravarty, 2005). In addition to this, UPS is also

given responsibility to match the computer system with the concerned monitor. Afterward the final unit is dispatched to the customer. Now in consideration to the role performed by UPS on behalf of Dell Computers, UPS needs information regarding customer orders, customer address, company's information etc. Therefore, Dell provides access to required data and information to UPS which facilitates the order fulfillment process without any disruption. In case the wrong system is attached to the wrong monitor or delivered to the wrong customer, then it would result in loss of millions. Hence, Dell ensures the customer front-end information is well accessible to UPS which then carry out its relevant logistic function by adhering to the information provided by Dell (Subramanian & Abdulrahman, 2017).

This showed a practical example to establishing an integrated supply chain where collaboration is observed among business, customers and suppliers using the information and communication technology software and applications. If the collaboration is smoothly established then it leads to establishing a successful value chain integration as in the case of Dell computers.

4. Coordination in Collaboration: A value chain analysis

The value chain in e business collaboration is a result of each and every member of the collaboration successfully attaining the goals it established while participating in the integration (Pratono, 2019). For instance, for a customer the benefit of being part of the collaboration could be to know before placing an order that whether the supplier would be able to fulfil the demand and satisfy the order. Similarly, for the vendors and suppliers getting the necessary customer data featuring forecasts of customer demand would greatly assist them in deciding their supply and production schedules and plan.

In an attempt to attain coordination in collaboration with the intent to develop a value chain, project management orientation is the key (Bettis-Outland et al., 2019). An electronic workflow executes customer ordering data to initiate processes at supplier end. It is responsible for supplying updated information to both ends. Furthermore, several web based applications and solutions have been developed that lead the process of order to payment for the supplier and procurement for the customer (Singh et al., 2018). In fact, under the project management approach, various suppliers and vendors join hands to collectively satisfy customer needs by pooling in the resources. For instance, the suppliers decide to share capacity plans, order forecasts and other relevant knowledge and data to create a shared value to derive collaboration. This value driven collaboration leads to dividends for the parties involved in the integration (Chi, Huang, & George, 2020).

As far as value driven collaboration among suppliers is concerned, accounting of resource sharing, task sequence and control, progress monitoring and workflow management are regarded as the bases to form an effective collaboration (LONGINOTTI, 2021). For example, in a retail setting where companies frequently change the order quantities and update the demand forecasts, the value driven collaboration using electronic workflow would be updated timely about these changes (Bwaliez & Abushaikha, 2019). Hence, they would be in a better position to address the changes in consideration. That is in case there is a sudden increase in demand forecast and retailers placed massive order, in that case the shared value would enable the suppliers to pool their capacity and resources to cater the high order demand. Eventually satisfying the customers without any loss of sales.

There are collaborative initiatives in the form of Vendor Managed Inventory (VMI) and continuous replenishment through which suppliers receive direct notification at their software dashboard whenever there is any change in order and demand forecast by the retailer (Molka-Danielsen et al., 2017). This is the benefit of the information exchange that tasks are executed timely. However, information access and exchange solely is not enough to streamline the integration and collaborative value chain but certain rules and principles are required to establish a proper synchronization among the value chain. For this purpose, Collaborative Planning Forecasting and Replenishment (CPFR) is a software that formulates principles and guidelines to overcome conflicts that may arise due to mismatch in customer ordering and supplier's production plans and schedules (Alfares & Attia, 2017). One of such intelligent planning software has been implemented by Cisco to address the issues concerning mismatch in demand and supply plans. Eventually, this software not just highlight the concerns but also suggest remedial action to overcome the issue using proper principles.

Conclusively, collaboration drives value chain, integrating suppliers, businesses and customers. This integration is not just vertical but could be horizontal among partners to establish coordination that leads to collaboration.

5. Conclusion

The decision to opt for which type of collaboration depends upon the prevailing market opportunities. The market opportunity available to a business could enforce its collaboration with its suppliers through supply chain management or with the customer through customer relationship management. In either case successful exploitation of the collaboration strategy will lead to a productive value chain. As far as supply side collaboration in e business is concerned, then Vendor Managed Inventory (VMI), CPFR and Demand Variance Reduction (DVR) serves as collaborating platforms through which businesses in coordination and collaboration with their vendors and suppliers can attain mutual benefits of cost reduction and efficient production plans (Sokiyna & Aqel, 2020). On the than hand, the customer relationship management include demand forecasting, customer solutions and product life cycle management to better establish collaboration with customers to ensure satisfaction and fulfilment of customer needs (LONGINOTTI, 2021).

However, a successful collaboration is a result of information exchange and conflict management. Hence, proper guidelines and principles laid down by conflict resolution applications must be executed to establish proper integration and synchronization. As a conclusion, the business needs to decide which collaboration technology it must invest and which technology and information access it needs to grant to its partners in the collaborative value chain (Liao, Hu, & Ding, 2017). This wholly depends upon the need of the business. For instance, in order to form a supply chain management collaboration, the business needs to grant access to the customer order patterns and demand forecasts to its vendors and suppliers in order to develop production plans accordingly. Similarly, it needs to grant access to marketing strategies and plans to ecommerce software vendors to get productive results regarding customer analytics (Pappas, Mikalef, Giannakos, Krogstie, & Lekakos, 2018). Ultimately it is the trust and good terms with the partners that will keep the relationship last long.

References

Alfares, H. K., & Attia, A. M. (2017). A supply chain model with vendor-managed inventory, consignment, and quality inspection errors. *International Journal of Production Research, 55*(19), 5706-5727.

Ali, M., & Edghiem, F. (2021). Sustainable Business and Collaboration Driven by Big Data Analytics Amidst the Emergence of the Remote Work Culture *Remote Work and Sustainable Changes for the Future of Global Business* (pp. 15-32): IGI Global.

Alsaad, A. K., Yousif, K. J., & AlJedaiah, M. N. (2018). Collaboration: the key to gain value from IT in supply chain. *EuroMed Journal of Business*.

Aussawasuteerakul, P. Comparative study of co-managed inventory and vendor-managed inventory for a distribution company.

Azad, M. A., Bag, S., Tabassum, S., & Hao, F. (2017). privy: Privacy Preserving Collaboration Across Multiple Service Providers to Combat Telecom Spams. *IEEE transactions on emerging topics in computing, 8*(2), 313-327.

Bettis-Outland, H., Tudor, K., & Bilal, M. (2019). CRM and Executive Decision-Making.

Bwaliez, O. M., & Abushaikha, I. (2019). Integrating the SRM and lean paradigms: The constructs and measurements. *Theoretical Economics Letters, 9*(07), 2371.

Chakravarty, A. K. (2005). Collaboration in e-business: Technology and Strategy *Managing Business Interfaces* (pp. 227-256): Springer.

Chi, M., Huang, R., & George, J. F. (2020). Collaboration in demand-driven supply chain: Based on a perspective of governance and IT-business strategic alignment. *International Journal of Information Management, 52*, 102062.

Das, S., & Mishra, M. (2019). The impact of customer relationship management (CRM) practices on customer satisfaction *Business governance and society* (pp. 43-54): Springer.

Essens, P., Thompson, M., Karrasch, A., & Jermalavicius, T. (2017). Building Effective Collaboration in a Comprehensive Approach (Etablissement d'une collaboration efficace selon une approche globale): NATO SCIENCE AND TECHNOLOGY ORGANIZATION NEUILLY-SUR-SEINE (FRANCE) NEUILLY ….

Ferrell, W., Ellis, K., Kaminsky, P., & Rainwater, C. (2020). Horizontal collaboration: opportunities for improved logistics planning. *International Journal of Production Research, 58*(14), 4267-4284.

Ilin, V., Ivetić, J., & Simić, D. (2017). Understanding the determinants of e-business adoption in ERP-enabled firms and non-ERP-enabled firms: A case study of the Western Balkan Peninsula. *Technological Forecasting and Social Change, 125*, 206-223.

Iyamu, T., & Adelakun, O. (2021). A global virtual team model to improve software development collaboration project. *Information Systems and e-Business Management*, 1-20.

Khosrow-Pour, D. (2018). *Entrepreneurship, Collaboration, and Innovation in the Modern Business Era*: IGI Global.

Kolasinska-Morawska, K., Sulkowski, L., & Morawski, P. (2017). Agility in Customer Service Using Cloud Based Crm Systems and Enterprise Collaboration Tools. *Economic and Social Development: Book of Proceedings*, 72-81.

Liao, S.-H., Hu, D.-C., & Ding, L.-W. (2017). Assessing the influence of supply chain collaboration value innovation, supply chain capability and competitive advantage in Taiwan's networking communication industry. *International Journal of Production Economics, 191*, 143-153.

LONGINOTTI, L. (2021). Benefits of collaborative Cloud platforms for supplier relationship management (SRM). The Brembo performance group case.

Merkert, R., Bushell, J., & Beck, M. J. (2020). Collaboration as a service (CaaS) to fully integrate public transportation–Lessons from long distance travel to reimagine mobility as a service. *Transportation Research Part A: Policy and Practice, 131*, 267-282.

Molka-Danielsen, J., Engelseth, P., & Le, B. T. N. (2017). Vendor-managed inventory as data interchange strategy in the networked collaboration of a Vietnam ship parts supplier and its customers. *Information Technology for Development, 23*(3), 597-617.

Pappas, I. O., Mikalef, P., Giannakos, M. N., Krogstie, J., & Lekakos, G. (2018). Big data and business analytics ecosystems: paving the way towards digital transformation and sustainable societies: Springer.

Pratono, A. H. (2019). Cross-cultural collaboration for inclusive global value chain: a case study of rattan industry. *International Journal of Emerging Markets*.

Singh, H., Garg, R., & Sachdeva, A. (2018). Supply chain collaboration: A state-of-the-art literature review. *Uncertain Supply Chain Management, 6*(2), 149-180.

Sokiyna, M., & Aqel, M. (2020). The role of e-business applications software in driving operational excellence: Impact of departments collaboration using sustainable software. *Sustainable Computing: Informatics and Systems, 28*, 100445.

Subramanian, N., & Abdulrahman, M. D. (2017). Logistics and cloud computing service providers' cooperation: a resilience perspective. *Production Planning & Control, 28*(11-12), 919-928.

Sujarwanto, K. R., & Iriani, S. S. (2019). E-CRM for Cooperation Service System in Higher Education Setting.