

A Study About The Evolution Of Hybrid Workplace And The Role Of Ucaas Due To Covid 19

Sidharth Jain¹, Raj Kumar Sharma¹ and Arvind Hans²

¹Institute of Business Management, Mangalayatan University, Aligarh, UP

²Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
E-mail: sidharth.jain@mangalayatan.edu.in

ABSTRACT

This research study aimed to understand better employee engagement during post and pre Covid-19 work environments. This research identifies emerging needs of the acceptance that technology needs to be used easily and comfortably. Technological inclusion in the modern hybrid workplace is different from inclusion in the home environment. Furthermore there are several technological features of UCaaS that helps in enabling the hybrid workplace and these are *Location mobility, Centralised communication of Multi-channel and redundancy features* and *security*. Although a hybrid workplace environment has its problems this study also shows the challenges and remedies to overcome them. The significance of UCaaS increased due to Covid-19 and work from home environment and this kind of cloud service is also highly demanding among youth, students, and office workers. The UCaaS blends the internet-based messaging and phones into the full-featured platform of communication. The companies are adopting the system of UCaaS in providing the staff with communication and collaboration tools for working anywhere. The solution of UCaaS functions across the computer user, smartphone and desk phone. The problems of the UCaaS system solve several disparate, separate communication apps and this app brings messaging, video conferencing, collaboration and communication tools together in one platform.

Keywords: *Hybrid workplace, pre and postCOVID-19, Location mobility, Centralised communication of Multi-channel and redundancy features* and *security, employee engagement, technology acceptance, digital wellbeing*

Introduction

Employee engagement with the workplace changed immensely due to Covid-19 as business concepts are changing too. Before the 20th or 21st century there was no such concept as work from home(WFH), in the wake of the pandemic the world changed the whole way of work. For employee wellbeing, to grow digitally more, and also to maintain the economic balance in the country WFH was invented. The hybrid workplace is another concept related to WFH, due to the previous years' full lockdown, people were used to being at home and working from there as well. After the lockdown was over and the world was getting a little better, work people are not ready to come out of their homes. Hence, the evaluation of hybrid workplace happens, and in the hybrid workplace, employees have to work in their office a few days a week and other days will be WFH as well under the guidance, rules, and regulation of the authority.

In order to communicate during WFH, many digital apps and platforms were created in the last two years, such as Zoom, Google Meet, Nextiva, Go to connect, and others. UCaaS (Unified Communication as a Service) is a service cloud that delivers enterprise communication mechanisms for

better communication for the people during WFH (Dziembek and Turek, 2018). Apps such as Zoom and others are considered UCaaS for the service and mechanism of communication they are providing.

Literature review

Concept of hybrid work environment

Hybrid work environments were introduced due to the change in the way an organization can work during a pandemic. Organizations are seeing impactful results both positive and negative impacts due to an increase in hybrid workplace adaptation more. The virtual work sector promotes more hybrid work adoption due to the positive outcome a company is getting out of it such as hybrid work improves employee satisfaction and growth, attracts more talent, and increases the productivity of an employee to work more (Radonić *et al.* 2021). Benefits of UCaaS include features such as **cost control, help in sharing information and data, improve in the productivity** in the platforms of multiple communications. It also helps in the reducing the administration time, create the silos within the business, helps in better revenue growth and customer experience and many more. UCaaS allows the organisations for connecting all of their employees, devices choices and their irrespective locations. Moreover, the main features of the UCaaS solution ensures the employees should have the tools that are required for collaborating with the team members and remote teams. On the other hand, there are some negative impacts regarding hybrid workplace such as an employee may feel disconnected from the company and also the worry about missing out on any opportunity. It can improve their position in the organization including the fear of missing out on training that improves several skills. Through creating a set of rules in the workplace in a hybrid environment it can lower costs and increase the performance of an individual.

Technological inclusion in the modern workplace

Technologies are data-driven as it provides more insight and solutions to process work, as it throws new challenges and new adaptation to learn for the workplace environment. Technology can be used as a metaphor for including new insight to the organization and upgrading their skill in digital wellbeing. Several technological features associated with UCaaS that can enable the hybrid workforce and they are **Location mobility, Centralised communication of Multi-channel and redundancy features and security**. The inclusion of technology made the digital revolution more understandable to the people such as it can skill up them, push more to learn, and also make it easier for anyone to learn anything or adopt anything from the world of the digital new era (Shakthi, 2020). These technological features are the most significant tools that help the business organization and their in-house HR that can get to put competition in this technology-driven digital competitive world.



Figure 1: Technological Features of UCaaS

(Source: Shakthi, 2020)

The technological feature like *location mobility* supports the hybrid workplace by UCaaS and it enables the workforce in receiving the experience of unified communication at home or in the office. It also transfers the technology smoothly between every location and manages the UCaaS support for the employees. On the other hand, the *centralised communication of the multi-channels* increases the collaboration of colleagues with different time zones and regions. UCaaS provides a centralised system where the employees can access several features like video/audio conferencing, calls, instant meetings, e-fax and many more. Furthermore, another technological feature is the *redundancy and security features* as it helps in connecting the organisation and secures the overall data. The UCaaS solution is providing the business continuity and security for the solution of the communication of minimising the overall risk.

Apart from that, the inclusion of practices in the workplace supports equity practice and truly communicates with the people, consumers, even the employee about the product or service they are offering on behalf of the organization. On the contrary, technology can also enhance the social culture of inclusion in the workforce (Richert *et al.* 2018). Introducing a healthy regulation and being technology-driven can also improve the relationship between the organization and their employee.

Importance of UCaaS due to Covid-19

Virtual technology adoption for the benefit of the organization is the new normal in this world. The pandemic forces people to change the way work has happened before in the world and it forces several employees and enterprises to shift rapidly from work from the office to work from home environment for the wellbeing of humans and also for the digital wellbeing. Digitally the world has become stronger than ever due to this WFH and technology-driven work. Covid-19 pushed the new technology to adopt practically overnight, such as apps that have been made specifically for use in the era of a pandemic or the cloud-based service that technology provides that also includes UCaaS as a service tool (Almrezeq, 2021). Research has shown that by using UCaaS there was a positive impact on the new normal for both

the employees and employers. Remote work is the only way for many workers in 2020 after WFH has been implicated for working in the pandemic and post-pandemic situation.

UCaaS is the key that provides a set of communication tools to aid in the workplace excluding any geographical issues. Digital networks and technologies changed the whole nature of doing work, it is not important to come to an office environment to be productive; it can also be done by sitting at home. UCAS is the best cloud service performed in the years, it makes it easier to understand technology for anyone, and it also increases more digital channels according to the business application. It is also cost-effective and data-driven technology scales up the performance produces more secure channels and manages the work environment fully.

Challenges in the hybrid work environment

A hybrid work environment is a structure that produces a flexible structure of work remotely to several employees of an organization and other members work from the office or a central location. Hybrid work environments deal with the employees separately due to different employees working differently and managing their work individually (Sinha and Haribabu, 2017). Yet some primary and secondary challenges come after it such as **Communication Gap**, **Missing training**, **Overwork and Underwork**, **Missing deadlines**, **Labour cost**. Apart from that the secondary problems are **managing both remote and in-office employees**, **Balancing the meeting arrangements**, **Distraction**, and **Loss of motivation**. The communication gap is the most significant problem that can arise due to WFH, as there is so many network issue and geographical problem. The employees are not able to get in touch with their supervisors due to this communication gap. As consequence, work efficiency is being harmed and productivity is decreased by that.

Missing training that can improve an employees' skill is also an important criterion that should be looked into by the organization. Employees' are scared to come to the office due to the pandemic and also scared of missing the new technology adoption training that companies are providing (Yu *et al.* 2018). Companies should virtually train their employees and look into their employees by using new cloud service technologies and for that employees are missing deadlines. Overworked and underworked is the effect of missing deadlines by employees and for some of the leaders and other employees are working more than the others but did not get paid for others extra work by the organization. Despite that, the organization is unable to meet the minimum labour cost due to maintaining the in-home and office work environment.

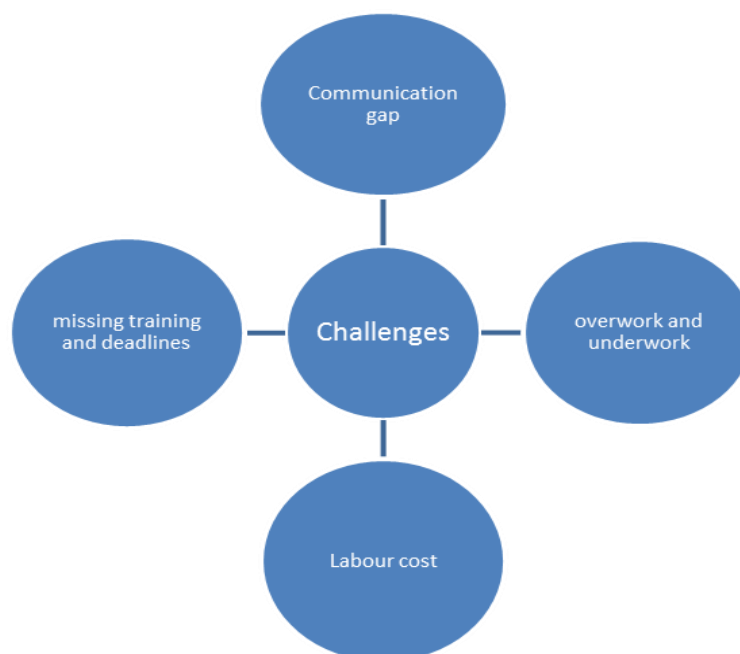


Figure 2: Challenges of hybrid workplace

(Source: Attaranet *al.* 2017)

Strategies in mitigating challenges in UCaaS implementation

Challenges that come with using the technology-driven cloud service UCaaS can be prevented by using counter-handling techniques as per the pre and post Covid19 world. Small local businesses are adopting the techniques of UCaaS software to get better communication yet the communication gap is the most common problem using the technology that UCaaS provides for the people. Communication can be dismissed by organizing a central mechanism that can be used by everyone in the office whether they are working in the office or working from home. A secure channel can be created by using the technology and employees can practice using this specific channel during communicating. Thus it can manage and by practising it correctly it also can be demolished strategically (Attaranet *al.* 2017). For missing deadlines and training, organizations can arrange a workshop or a healthy meeting through using the cloud service. Motivating employees and workers to do their best in this situation and can help to boost the motivation of the employee and they are bound to work on time and be more focused even in the homely environment.

In that scenario, overwork and underwork can also be managed in case all the employees are sufficiently doing their job and not missing any deadlines. Managing both in-office and homework can be tricky yet there is also some solution practice for that, the organization can arrange a team that only will be supervising the team that is working from home and another team of supervising will manage the in-office work environment thus it can manage way easily and it is also useful for dividing the overload.

Technology Acceptance Model

The new technology takes time to get accepted by the people even though they are educated about it. TAM is designed based on customer attitudes towards new technology adoption and for measuring the adoption among the people that are using it or know about, heard about it. It is also discussed various aspects based on user receives and usefulness. This model shows the two main aspects of user one are ***Perceived usefulness and the other is Perceived ease of use.*** Perceived usefulness studies the user's believes towards the new technology to help improve the efficiency or performance of that technology (Tan and Hsu, 2018). On the other hand, perceived ease of use studies shows that the users are comfortable and able to use the technology or is it easy to use or not. TAM shows positive attitudes towards using new technology at work.

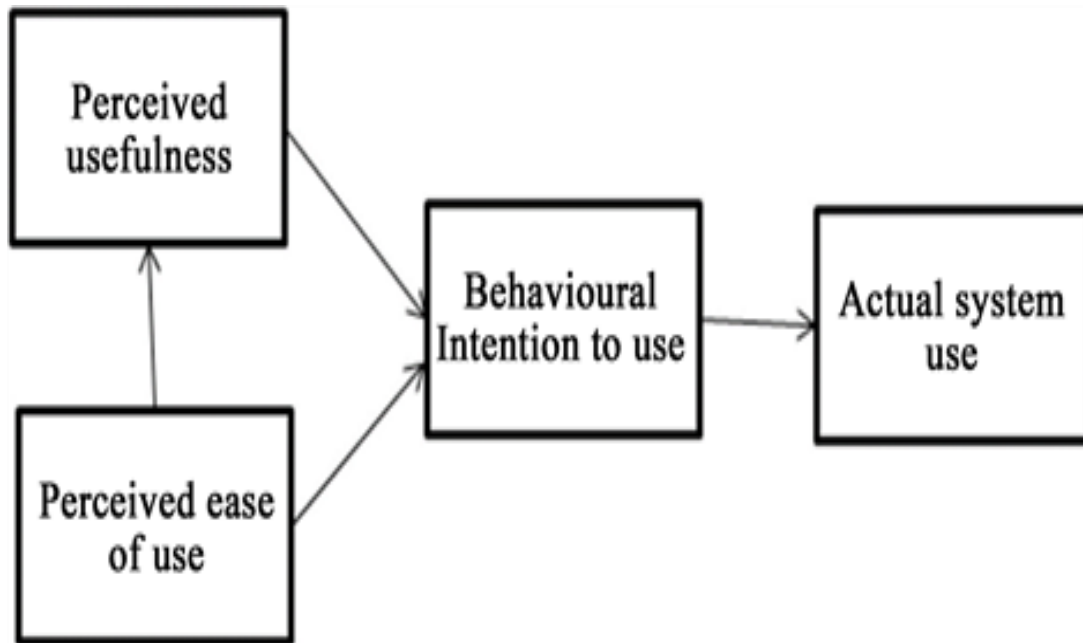


Figure 3: Technology Acceptance Model (TAM)

(Source: Munoz-Leiva *et al.* 2017)

In the case of acceptance of this new cloud service technology, the UCaaS study shows (Munoz-Leiva *et al.* 2017) that there has been a hugely positive outcome of it. Users are finding it easy and comfortable due to working through this application that is provided by UCaaS. The inclusion of this approach has assisted the office work to school and university work even for individual use. The services that UCaaS provides are way nicer, with everyone getting the benefit of it. Therefore, it is easy to use and handle and anyone can adopt the way of using this new technology just learning for one day. These formats of service and new technology are used highly by students and office workers.

Access to UCaaS in business and corporate sectors

The UCaaS solution is becoming an important part of improving the tools of communication within the industries. This is the online platform that is used for helping streamline the internal processes and it supports the employees who are working from their homes. Moreover, it enables access to business communications from any place and at any time (Dziembek and Turek, 2018). During the time of the Covid-19 pandemic, almost 41% of the people are transitioned to the remote work and it is reported a hectic change in the way the people communicated and collaborated with their co-workers. For supporting the employees in the home offices the business has almost turned to the platform of UCaaS for the gaps of close communication and it also improves the total operational efficiency (Alias *et al.* 2018). Moreover, there are several key reasons in the business world that often decide in deploying collaboration and communication to cloud platforms.

The key reasons are it frees up the IT staff for focusing on the innovation of the business that is up to 80%, it also eliminates the overall hassle in integrating the solution of multi-vendor that is up to 78%. Moreover, it also manages the total impact and the environmental costs in the business up to 77%; it supports the market or agility responsiveness in business that is up to 75%. It also helps in shifting the costs to the operating budget from the capital. Several companies have seen the increase of the remote models of hybrid within the era of post-pandemic as the employees are continuing in demanding more arrangements that are flexible in nature. Moreover, this online platform gives a better level of privacy, security, access control and compliance for the process of collaboration and communication within the company even at the time when a pandemic is fully stopped (Chen *et al.* 2019). This software is also

used in running the multinational corporation in benefiting the systems of unified communication that are integrated into several businesses.

Moreover, the majority of the mid-size companies are tuning into this platform for addressing the crucial requirement in supporting the employees within the home offices. On the other hand, around 100 to 2600 users are choosing a wider array of the offerings for their evolving requirements and specific needs. The benefit of using this platform is it helps in managing the effective IT solutions and save the time of the IT sectors. This tool also helps in staying resilient, responsive and agile at the time of the pandemic of Covid19 19. Moreover, it also streamlined the external and internal communications; it increases the total productivity and also improves the workflows. It also accelerates the processes of decision making and evolves into the higher collaborative organizations (Barabasch and Fischer, 2021). The main benefit is it effectively manages the procedure of work from home and achieves the competitive advantages that are by using the advanced solutions.

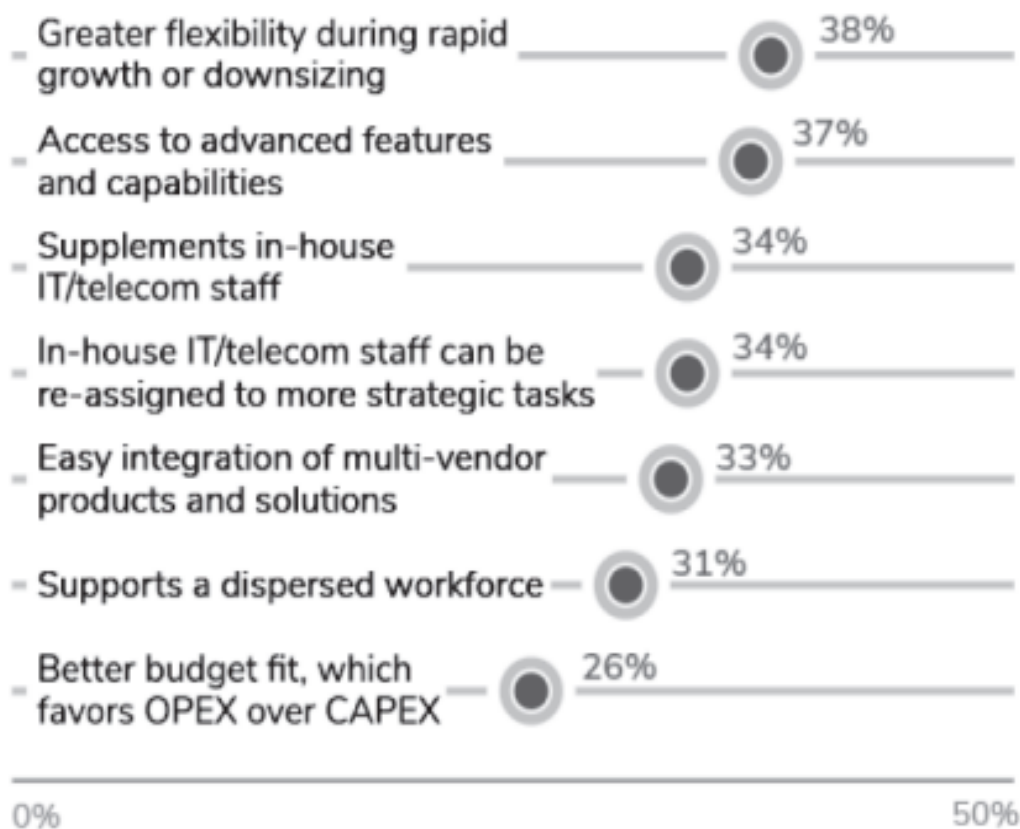


Figure 4: Benefits of UCaaS

(Source: Nikhil *et al.* 2019)

The main use of the communication system within the cloud allows the companies in achieving the significant benefits that improve the position of the competitive market (Nikhil *et al.* 2019). Moreover, there are several threats that are involved by using the systems of UCaaS in which the managers of the several companies realise at the time of decision making. The main benefits are it avoids the cost during purchasing, maintenance, development and implementation of the dedicated software and hardware.

It changes the total capital expenditures into operational expenditures that are it eliminates the cost of significant investment and incurred the periodic subscription fees for the communication services. It

also improves the productivity of the employee that is by choosing the possibility of the best channel of communication for the overall employees with other applications of businesses. Hence, it improves the overall processes ineffectiveness of collaboration and communication that increases the productivity of the staff. The qualitative benefits like improved functionality, greater flexibility, mobility or efficiency support and many others are not indicated as the important benefits of the platform UCaaS in the SME sector.

The platform UCaaS is the cloud-based solution of communication that offers the secure means of the collaboration by multiple channels like video, voice, chat and many others. Moreover, it guarantees the communication experience that is for the remote employees and in-office employees (Chakraborty and Sadachar, 2020). The UCaaS enables the hybrid workforce in several ways like mobility location, centralized communications of multi-channels, redundancy and security features. This software also enables the workforce in receiving the communication experience and it supports the policy of body-your-own-device so that the employees can see their fax, voicemail, calls and video conferences from any of the devices. It also provides a centralized system so that the employees can easily use it in accessing the features like meetings, e-fax, messaging, video and audio conferring, and calls within the cloud. This research article has some further scope of research such as the field of the scope of UCaaS in the usage of students and its use and misuse are one of them. On the other hand, there is also a further scope of knowledge about age gaps in the adaptation of the new technology that can be studied by the researchers. Moreover, due to the inclusion of the Covid- 19 virus the researcher has also faced several complicated issues regarding the data collection process.

Data Analysis

The result of the research study on the benefits of the UCaaS is indicated by the total respondents and is presented in the given figure. Moreover, the main financial effects are related to the implementation of the platform of UCaaS. The important benefits are emphasized in giving the access to the latest functionalities, by the total respondents that are included for greater flexibility. On the other hand, the qualitative effects are the role of the UCaaS platform in shaping the effective collaboration and communication and also the organizational effects that concern the IT employees (Jones and Jones, 2021). This is noticeable for the respondents as the main result of the use of this platform.

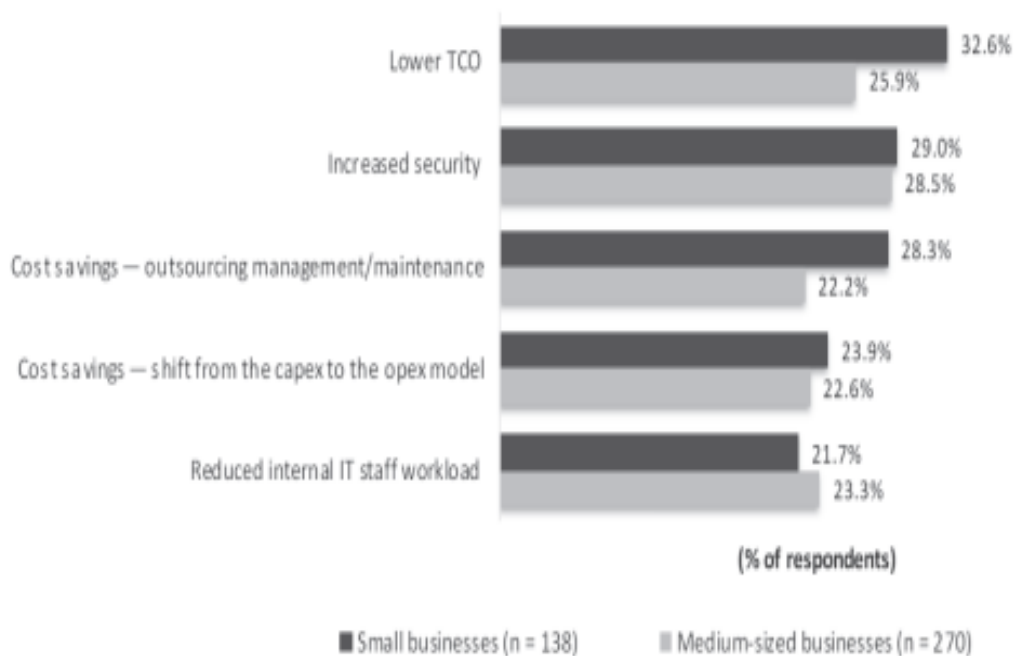


Figure 5: Benefits of UCaaS in SME

(Source: Qi *et al.* 2020)

The main use of the unified communications is accompanied by total challenges and risks that are taken under consideration through the total recipients that are before starting the use of UCaaS and before the purchasing. The individual threats and the security of the threats are dependent on the type of the cloud platform that is the private and public cloud (Qi *et al.* 2020). The important barriers and limitations of the UCaaS include that the barriers of security-related like lacking of the access to the resulting of the data and the services. Moreover, it is within the serious disruptions in the functioning of the enterprise that reflected a negative impact on the revenue growth of the organization. The non-compliance within the platform of UCaaS solutions are adopted with the security policies that is the insufficient level of voice security and the level of the data security or the failure of the provider in meeting the total standards.

Technical barriers such as network or power failures, problems in accessing the bandwidth of high internet, variable quality in making the calls are difficult in maintaining positive relations with the customers. Moreover, the difficulties to integrate the already used and local communication system that is related with the cloud solutions, problems related to the migration of data between the clouds. The technological solutions that are limited lead to the difficulties linked with the management. Moreover, the risk of non-compliance that is with the guidelines of the regulator and the difficulties in the process of negotiating the contracts with providers.

The market barriers include the lack of promotions and incentives for the total recipients, the immaturity in some of the UCaaS solutions, and the doubts that concern the overall professionalism of some of the providers. It also includes the barriers such as risks in cost of higher UCaaS than the original costs, poor range in the solutions of UCaaS within the SME sector. Moreover, it also consists of the barrier such as insufficient activities within the organization that is standardized in promoting information, the knowledge about the UCaaS solutions and the overall functioning of the cloud computing.

Presently, the main perception of the challenges and problems that are related to implementing the UCaaS within the companies has gradually changed. Moreover, around 250 professionals of IT are

conducted and it indicates the major difficulties regarding UCaaS in availability and the performance or service levels. It significantly overtook several challenges such as integration, budget lacking, switching cost, security and bandwidth adequacy.

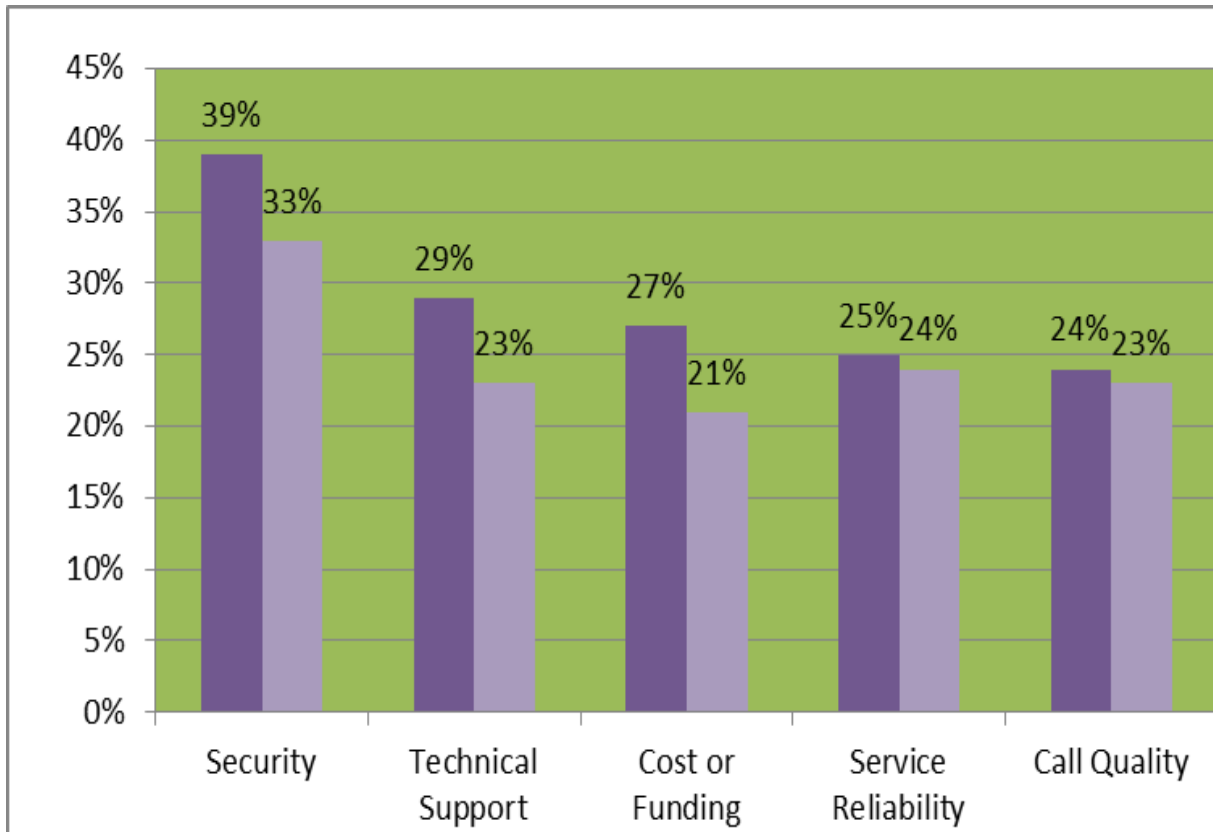


Figure 6: Small and Medium business in deploying UCaaS in pandemic

(Source: Barabasch and Keller, 2021)

The security aspect is the particular interest that is indicated by the SMEs as the significant benefit and important threat to the UCaaS platform and the results are given in the above figure of deploying the platform in the pandemic. The security was fully cited as the threat or problem by 39% within the small business and 33% within the medium-sized business. Moreover, it is emphasized that within the case of SMEs that usually are not having the sufficient capital, the platform UCaaS solutions are offered by the external providers (Barabasch and Keller, 2021). These are usually characterized by the security of high level as compared to the companies. The service providers of UCaaS incur the significant expenditure within the mechanisms of multilayer security that can make it critical for the providers for retaining their new and current customers. The overall indications of the SME respondent to the problems of the technical support are 29% within the small business and 23% within the medium-sized business. Moreover, it is shown that the companies are much afraid of the complications in maintaining and implementing UCaaS, despite the assurances of the service providers within the wider range of the assistance service. The experts that are included in this service are capable of solving various problems of ICT. However, within the solutions of UCaaS, the overall implementation of the services in ICT is done by the company themselves (Elumalaiet *al.* 2021). Moreover, combining the solutions of communication from various providers might generate the problems of software and hardware compatibility within the future.

The reliability of the call quality and the services are emphasized by the SMEs regarding UCaaS that is 24% within the small business and 23% within the medium-sized businesses. The stability and quality of the communication processes might discourage the potential interest within the company in implementing UCaaS. The adequate quality of the communication services might affect the total performance within the important process of business and it results in limiting the revenues (Abumelha, 2021). Moreover, it is difficult in analyzing the requirements of the communication processes within the company. It is compared with several opportunities in using the solutions of UCaaS that are offered by the service providers for guaranteeing the proper quality level within the communication services. The quality and reliability of the UcaaS services are similar and it is higher than the overall efficiency within the solutions of local communication. Moreover, it is maintained and provided by the internal departments of IT within the company (Brinton, 2021). On the other hand, it ensures the continuity within the recovery after the failure and communication services that represent the other areas in which UCaaS might offer better efficiency in the conventional solutions.

The main important aspect of the social material perspective is having a wider range of the materiality that includes the intangible qualities in software solutions. Moreover, it assists in appreciating the total digital application that reveals the burdens and the benefits within the hybrid workforce. On the other hand, the technology is used in collapsing and expanding the overall perception within the organizational spaces and HRM and it can understand the experience of the employees within the workspace that is IT-enabled (Croft and Chauhan, 2021). The intentions are encoded within the material artefacts and the spaces contribute the ways for the HRM to conceptualize the hybrid spaces that are IT-enabled within the work practices. Therefore, the employees including the HR managers navigate the hybrid spaces that are IT-enabled of control and autonomy that is with rigid and flexible rules.

UCaaS allows the workers to communicate and collaborate easily whether the workers are working at home or they have returned to the office. The UCaaS also helps in the transition of remote work in the pandemic. During the time of the Covid-19 pandemic, the workers moved to the remote business for finding the solution that made the information accessible from any place. The cloud-based communication is made for continuing their own work and this communication is allowed to the remote employees for having the access to several data that are required for the effective work (Eranzaet al. 2020). The system of UCaaS is cloud-based and it gives the employee in accessing to the work communication from any place. Moreover, UCaaS is the actual solution for the business that had the employees scattered. The solution of cloud-based communication helped telework to be popular during the pandemic situation.

Workers have found the unexpected perks during starting the procedure of work from home and some of the perks of remote workers include the elimination of the commute time. Moreover, it also helps in lowering the transportation cost, reducing the cost of childcare with the increased balance of work-life (Ziora, 2018). The perk for the employers includes the lowered cost in building the expenses, lowering the cost of travel reimbursement and surprisingly increased productivity of the work. As the workers started coming back to their offices, some of the businesses have found that the workers do not want in going back to the office for several reasons. Moreover, about 99% of the respondents wanted to remain in their remote areas in the least capacity. Therefore, for the requirements and wants of the employees, the offices have started adopting the hybrid model within the work. The hybrid model consists of both the in-person and the remote workers and other employees those who are relatively remote (Alias et al. 2018). Hence, this flexibility helped the employers in keeping their hardworking employees for the business. The best way is the collaboration with several co-workers is only through messaging. The light quick form in the process of communication takes the time in talking with co-workers. Moreover, for this system, the workers do not have to wait for any emails or the replies to the emails. It does not get stuck in any of the responses within a project; the messaging is instantaneous in this system. The relationship with the customers is the most important thing in keeping the business upgraded and that is why reliable solutions are to be made by the system in building up the communication with the customers. UCaaS is becoming the main communication infrastructure after the recovery of post-pandemic and it is recently used about 50% of the overall business in the global market.

Responses	Percentage
Allowing the employees to work in the remote place	90%
Flexibility at the time working of the people	65%
Benefits of the additional employees	44%
Changes to the productivity in monitoring for the remote employees	26%
Flexibility on the timing of the working of people	17%
Changes in the compensation for the remote employees	7%
Others	5%
None of the above	1%

Table 1: Responses and their percentage in using UCaaS

(Source: Alias *et al.* 2018)

The feature of UCaaS is promoting the new normal where the workers can be in a remote place or the office. Moreover, it is most important in focusing on the features of cloud-based systems that make it possible for messaging, automation, video conferencing and a few of the features of UCaaS help in the promotion of hybrid and remote workers. The video conferencing is a great way of bringing the several workers in a place together from the miles apart (Borisoglebskaya *et al.* 2019). The file share, screen share, recording and messaging is vital for great collaboration and with the solution of UCaaS these functions are the main part of video conferencing.

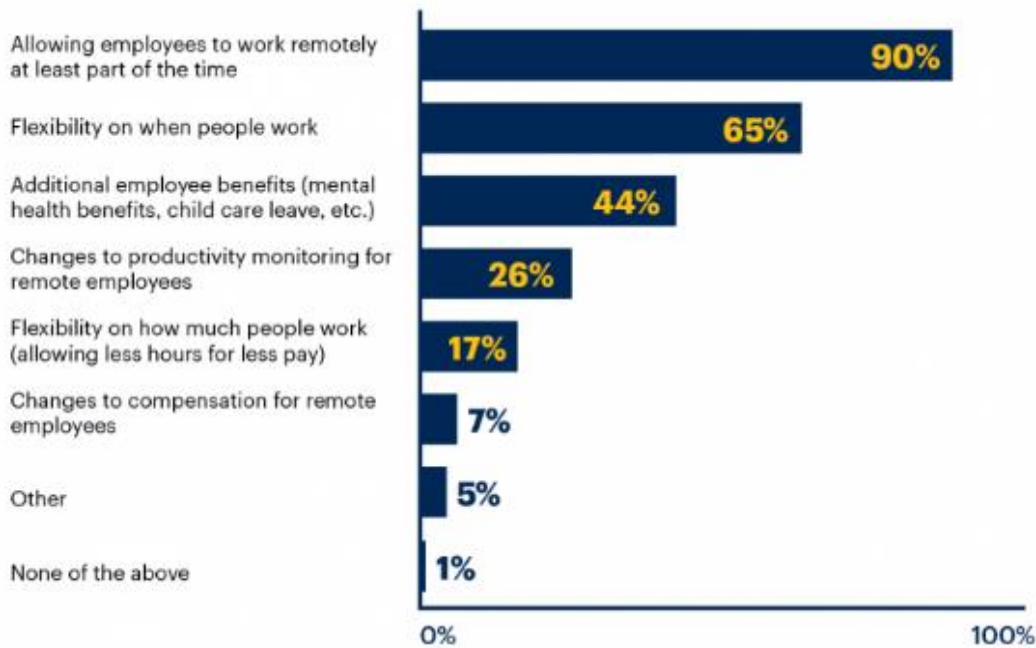


Figure 7: Role of UCaaS

(Source: Borisoglebskaya *et al.* 2019)

The automation of the UCaaS system has become most prevalent within the business and this allows for better service of the customers even if there is low staff. The attendants of the auto phone help in cutting down the wait time of the customers while it directs them to the accurate service of the correct customer representative (Karmarkar, 2021). The auto-responses help in improving the customer service of the internet for 24/7. The system of UCaaS helps the clients when the representatives of the customer service are not available in redirecting the calls to the available ones. On the other hand, it is most important to keep this system updated as the system will help in uniting the workers in the same building of the office (Salleh and AbHalim, 2020). Moreover, this system is much more helpful in the growth and development of the business and after the post-pandemic, the system also needed to focus on uniting all the regardless within the work location.

Recommendation

The accessibility of UCaaS is increasing day by day and for that, developers and experts should apply suitable features of *machine learning and AI*. It can help in improving and managing the overall system of communication. Emails and the shifting calls are the urgent purposes within the communication system and for that usage of AI would prioritize the email and call based parameter received by clients (Parmar and Ranga, 2019). Furthermore, AI can do prescribe the document distribution with the attendees. The transcriptions regarding conferencing and calls should be developed appropriately as it will help in a further task that is based on the personal workloads and in terms of services.

Conclusion

This study suggests the importance of new technology that has been used and explored during the Covid-19 lockdown. The remote work environment pushes this kind of technology to grow more and be accepted more by the people. Research suggests that a large number of groups accept that there are way more possibilities for UCaaS and this kind of technology to help people in a fast, easy and sufficient way. As UCaaS has several advantages that help to make the app the right choice and the advantages

are having a lower cost than the other apps, it is having the best employee mobility. UCaaS software is having several technological features like Location mobility that enables the overall workforce that can receive same communication experience.

The software also supports the employees in checking of voicemail, video conference and many more from any device. Another technological feature is Centralised communication of Multi-channel and it helps in spreading the workforce and work space in different time zones and regions. Another feature is the redundancy features and security and it helps in providing business continuity and security through UCaaS solutions. Furthermore it enhances the team collaboration, it has greater scalability and reliability, and it gives higher productivity to the business. The system of UCaaS also lowers the communication cost that is also by not sacrificing the overall productivity and by this the business communication is being controlled and the costs are balanced within the business. Hence, the system of UCaaS is a much more beneficial platform in business during the pandemic of Covid-19.

Reference List

Alias, E.S., Mukhtar, M. and Jenal, R., 2018. Adoption of unified communications and collaboration from the perspective of diffusion of innovation and service-dominant logic: A preliminary view. *International Journal on Advanced Science, Engineering and Information Technology*, 8(5), pp.1882-1889.

Almrezeq, N., 2021. Cyber Security Attacks and Challenges in Saudi Arabia during COVID-19. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(10), pp.2982-2991.

Attaran, M., Attaran, S. and Celik, B.G., 2017. Promises and challenges of cloud computing in higher education: a practical guide for implementation. *Journal of Higher Education Theory and Practice*, 17(6), pp.20-38.

Barabasch, A. and Fischer, S., 2021. Understanding creativity as an occupation-specific competence. In *The next steps for apprenticeships* (pp. 106-114). Cedefop/OECD.

Bick, S., Spohrer, K., Hoda, R., Scheerer, A. and Heinzl, A., 2017. Coordination challenges in large-scale software development: a case study of planning misalignment in hybrid settings. *IEEE Transactions on Software Engineering*, 44(10), pp.932-950.

Borisoglebskaya, L.N., Kravets, O.J., Pilipenko, O.V. and Provotorov, V.V., 2019, December. Cyber-physical control system for integrated material flows. In *Journal of Physics: Conference Series* (Vol. 1399, No. 4, p. 044044). IOP Publishing.

Brinton, J., 2021. The impact of COVID-19 on the UK publishing industry: Findings and opportunity. *Learned Publishing*, 34(1), p.43.

Chakraborty, S. and Sadachar, A., 2020, December. Impact of User-Centric Advertisement Appeals on Consumers' Emotional Responses and Sustainable Apparel Purchase Intentions. In *International Textile*

and Apparel Association Annual Conference Proceedings (Vol. 77, No. 1).Iowa State University Digital Press.

Chen, R., Zhou, H., Moretti, M., Wang, X. and Li, J., 2019. Orbital angular momentum waves: Generation, detection, and emerging applications. *IEEE Communications Surveys & Tutorials*, 22(2), pp.840-868.

Croft, C. and Chauhan, T., 2021. Professionalism in a Pandemic: Shifting Perceptions of Nursing Through Social Media. In *Organising Care in a Time of Covid-19* (pp. 203-223). Palgrave Macmillan, Cham.

Dziembek, D. and Turek, T., 2018.Characteristics and application of Unified Communications as a Service (UCaaS) in enterprises.*InformatykaEkonomiczna*, (4 (50)), pp.47-65.

Elumalai, K.V., Sankar, J.P., Kalaichelvi, R., John, J.A., Menon, N., Alqahtani, M.S.M. and Abumelha, M.A., 2021. Factors Affecting the Quality of E-Learning During the COVID-19 Pandemic from the Perspective of Higher Education Students. *COVID-19 and Education: Learning and Teaching in a Pandemic-Constrained Environment*, p.189.

Eranza, D.R.D., Mapjabil, J., Hiung, A.L.C., Bahron, A. and Tanalol, H., 2020. Conceptual research on the business implications of COVID-19 in Sabah using industry analysis tools.*Journal of Islamic*, 5(32), pp.26-36.

Jones, M. and Jones, D., 2021. Understanding Aspiration and Education Towards Desistance from Offending: The Role of Higher Education in Wales. *Journal of Prison Education and Reentry*, 7(1), pp.23-49.

Karmarkar, U.S., 2021. Service Industrialization, Convergence, and Digital Transformation–I. *Management and Business Review*, 1(1).

Munoz-Leiva, F., Climent-Climent, S. and Liébana-Cabanillas, F., 2017. Determinants of intention to use the mobile banking apps: An extension of the classic TAM model. *Spanish Journal of Marketing-ESIC*, 21(1), pp.25-38.

Nikhil, D., Dhanalaxmi, B. and Reddy, K.S., 2019, October. The Evolution of Cloud Computing and Its Contribution with Big Data Analytics. In *International Conference on Innovative Data Communication Technologies and Application* (pp. 332-341).Springer, Cham.

Parmar, N. and Ranga, V., 2019.Performance analysis of WebRTC and SIP for video conferencing. *Int. J. Innov. Technol. Explor. Eng.(IJITEE)*, 8(9S), pp.679-686.

Qi, Z., Wang, S., Su, C., Su, L., Zhang, W. and Huang, Q., 2020, October. Modeling Temporal Concept Receptive Field Dynamically for Untrimmed Video Analysis.In*Proceedings of the 28th ACM International Conference on Multimedia* (pp. 3798-3806).

Radonić, M., Vukmirović, V. and Milosavljević, M., 2021. The Impact of Hybrid Workplace Models on Intangible Assets: The Case of an Emerging Country. *Amfiteatru economic*, 23(58), pp.770-786.

Richert, A., Müller, S., Schröder, S. and Jeschke, S., 2018. Anthropomorphism in social robotics: Empirical results on human–robot interaction in hybrid production workplaces. *AI & SOCIETY*, 33(3), pp.413-424.

Salleh, R. and Ab Halim, A.H., 2020. Knowledge Impact on Information Quality, Service Quality and System Quality for Security of 1GovUC.*OIC-CERT Journal of Cyber Security*, 2(1), pp.57-67.

Shakthi, S., 2020. The law, the market, the gendered subject: workplace sexual harassment in Chennai's information technology industry. *Gender, Place & Culture*, 27(1), pp.34-51.

Sinha, Y. and Haribabu, K., 2017. A survey: Hybrid sdn. *Journal of Network and Computer Applications*, 100, pp.35-55.

Tan, P.J.B. and Hsu, M.H., 2018. Designing a system for English evaluation and teaching devices: A PZB and TAM model analysis. *Eurasia Journal of Mathematics, Science and Technology Education*, 14(6), pp.2107-2119.

Weil, T. and Murugesan, S., 2020. IT risk and resilience—Cybersecurity response to COVID-19. *IT professional*, 22(3), pp.4-10.

Yu, Y., Jeong, E. and Ahn, K.K., 2018. Review of energy saving technology of hybrid construction machine. *Journal of Drive and Control*, 15(4), pp.91-100.

Ziora, L., 2018. Cloud computing solutions in the management of a contemporary business organization. The vendor and user perspective. *Informatyka Ekonomiczna*, (4 (50)), pp.169-182.